

2024 ENGINEERING MANUAL

MODULAR PLASTIC BELTS

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Warning—Intralox products are made of plastic and can burn. If exposed to an open flame or to temperatures above Intralox specifications, these products may decompose and emit toxic fumes. Do not expose Intralox conveyor belting to extreme temperatures or open flame. Flame retardant belt products are available in some series. Contact Intralox Customer Service for more information.

Maintenance—Prior to installing, cleaning, lubricating, or performing maintenance on any conveyor belt, sprocket or system, consult the federal, state, and local regulations in your area regarding the control of hazardous/stored energy (lockout/tagout).

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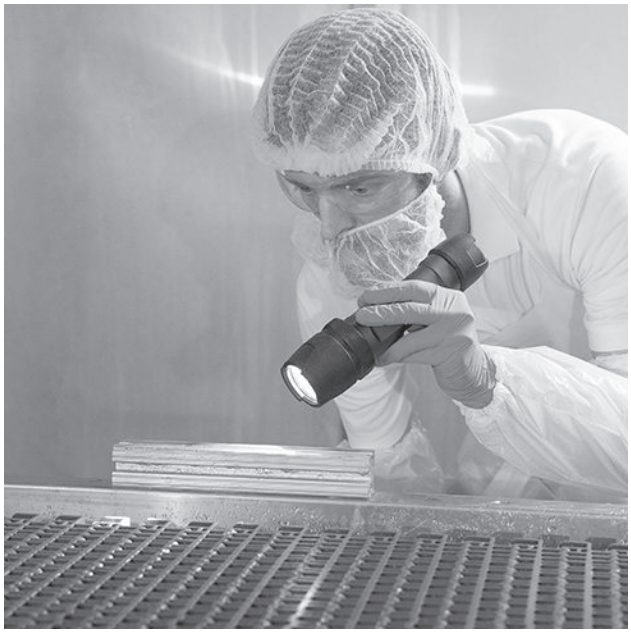
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1 INTRALOX OVERVIEW

With more than 50 years of experience, Intralox continues to lead the way in helping customers achieve their goals by offering comprehensive conveyance solutions that create significant economic value. Intralox delivers innovative, premium technology within a direct business model and a global, industry-specific structure. Our industry-specific teams have an in-depth knowledge of customer applications, and provide customer service and technical support all day, every day, year round. Working with Intralox allows you to experience our uncompromising commitment to providing solutions and solving problems for our customers.

We pushed past the boundaries of traditional conveying systems with the revolutionary invention of modular plastic belting, and continue to move beyond industry standards with new products, equipment, solutions, and services. Intralox's commitment to innovation has led to over 1500 patents currently in force around the world. When our customers have challenges, we invent smart solutions to meet them.





INTRALOX RESOURCES

For country- and industry-specific customer service, information about Intralox products, our company, or to access the resources listed below, visit www.intralox.com. For contact information for Intralox headquarters, see the back cover.

- **Engineering Manual**—Download the latest version of this engineering manual.
- **CalcLab**—Intralox provides CalcLab™ to help calculate and evaluate many aspects of conveyor design. CalcLab is an always up-to-date replacement for legacy engineering programs that runs in the browser and can be accessed from any internet-connected computer. To use CalcLab, go to calclab.intralox.com.
- **Evaluation Forms**—Our on-line evaluation forms are the first step to creating the best design for your application. After receiving your evaluation form, Intralox technical experts will contact you to provide engineering assistance and design reviews.
- **CAD Drawing Files**—DXF templates for all series are available. These templates have belt and molded sprocket details that can be used in CAD conveyor designs.
- **Product Literature and Technical Guides**—Downloadable technical guides include a preventive maintenance guide for modular plastic belts, a belt sanitation guide, and more. Intralox also offers technical and application-specific guidelines on most of the products listed in this manual.
- **Installation Instructions**—The *Installation, Maintenance & Troubleshooting Manual* provides general maintenance information and step-by-step installation instructions for most Intralox belts.
- **How-To Videos**—Address common belt challenges with our Performance Support Videos. Each video is designed to help you install, maintain, or troubleshoot your Intralox conveyor belts and components.
- **Belt Identifier**—The belt identifier can help you select a replacement for your existing Intralox belt.

BELT CONSTRUCTION

All Intralox belts are constructed with injection molded plastic modules. These modules are assembled into interlocked units and joined by hinge rods.

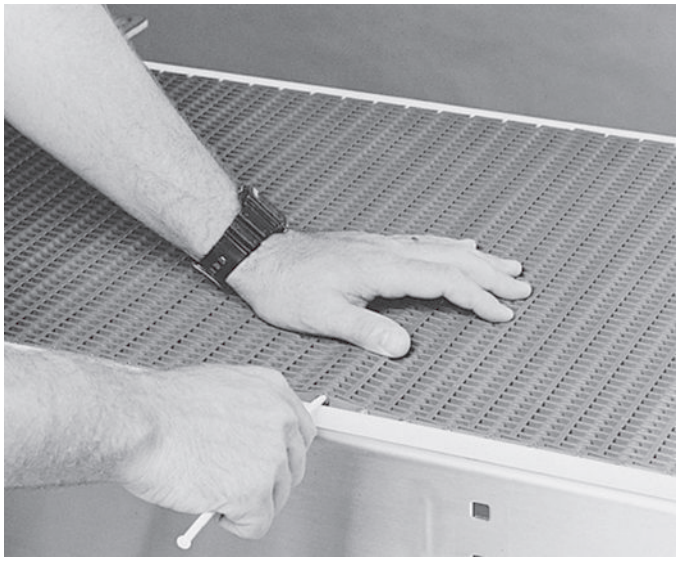


Figure 1: Plastic modules joined by hinge rods

Belts are either one module wide (for narrow or SeamFree™ belts) or built in a bricklayed pattern from two or more modules. Bricklayed belts are built with the joints between modules staggered between the joints of adjacent rows. This bricklayed structure interlocks the modules, giving the belt inherent lateral strength. The hinge rods do not hold the belt together from side to side, but act only as pivot members in shear. The belt that results from this construction process is intrinsically strong, both laterally due to the bricklaying, and longitudinally due to the rods being placed in multiple shear.

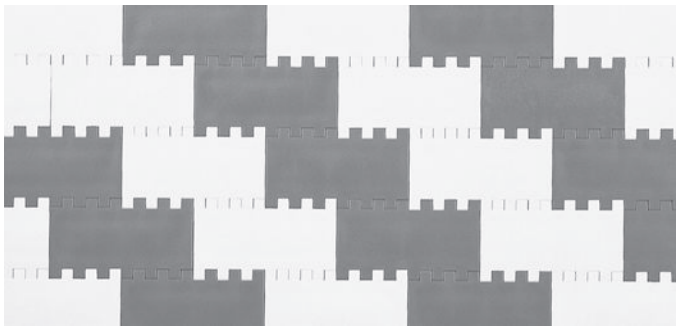


Figure 2: Bricklayed structure

Because of modular construction, Intralox belts can be made in almost any width, from three links wide.

Each belt style incorporates several distinguishing features. Surface, pitch, and drive features are described in detail in Belt Selection Process. Hinge and edge features are:

- Open hinges—the hinge rods are visible from either the top or bottom surface (or both) of the belt to aid in belt inspection.
- Closed hinges—the hinge rods are completely enclosed to protect them from abrasives or contaminants.
- Flush edges—flush edges ride snugly beside the conveyor frame rails without gaps or exposed rod heads. They reduce the possibility of product, or belt, snagging on the frame.

DRIVE METHOD

Intralox belts are positively driven by plastic or metal sprockets, not friction rollers. The sprockets, another part of the Intralox system, have square bores and are driven by matching square shafts.

NOTE: Round bore sprockets are available for certain belts.

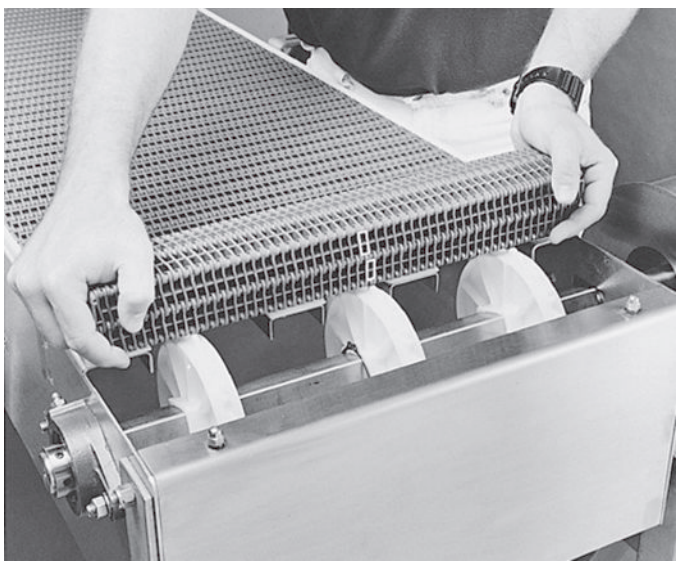


Figure 3: Sprocket-driven Intralox belt

Not only do square shafts transmit torque (rotational force) without the need for troublesome keys and keyways, they accommodate the lateral expansion differences of the plastic belt material and the metal shafts. Only one sprocket per shaft is retained. The others are allowed to float, moving along the shaft as the belt expands or contracts. Thus, the sprockets are always transmitting torque. Of all belt drive systems tested, the square shaft with square bore sprockets has proven to be the most effective, economical, reliable, trouble-free, and simple.

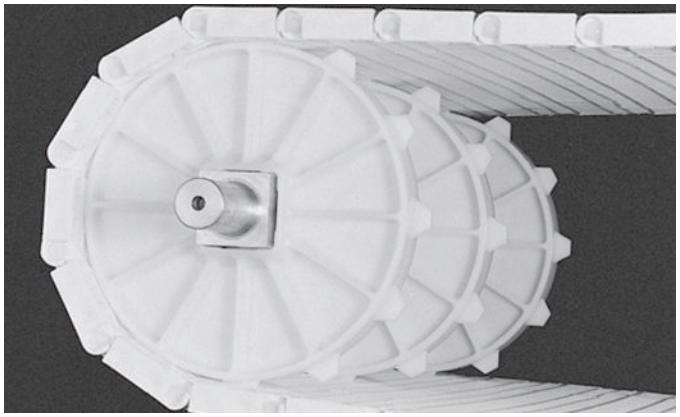


Figure 4: Square-bore sprockets on square shaft

DESIGN REQUIREMENTS

Intralox conveyor belts are available in various styles, materials, and colors, with many accessory options. To make the appropriate selections when designing for a particular application, reliable information about operating and environmental conditions is critical. Factors to evaluate include:

- Type of belt system: straight-running, radius, or spiral
- Overall dimensions of the installed belt:
  - Distance between drive and idle shafts
  - Belt width
  - Conveyor elevation changes
- Belt speed
- Product characteristics:
  - Density
  - Unit size and shape
  - Hardness, toughness, brittleness, rigidity
  - Texture (smooth, rough, granular, lumpy, spongy)
  - Corrosiveness
  - Moisture content
  - Temperature
  - Frictional nature
- Any process change during conveyance:
  - Heating
  - Cooling
  - Washing, rinsing, draining
  - Drying

- Cleaning and sanitation requirements and conditions:
  - USDA-FSIS approval
  - Harsh temperatures or chemicals
  - Continuous on-line cleaning
- Product loading and removal methods: smooth or impact transfers
- Operating environment conditions:
  - Temperature
  - Moisture and humidity
  - Chemical nature (acid, base)
  - Abrasive materials (sand, grit)
  - Hazardous materials (dusts, vapors)
- Drive system type:
  - Motor driven
  - Chain driven

For more information, see Design Guidelines.

BELT SELECTION PROCESS

STEP 1: CHOOSE THE RIGHT TYPE OF BELT SYSTEM

Choose a straight-running, radius, or spiral belt system.

STEP 2: CHOOSE THE RIGHT MATERIAL FOR YOUR APPLICATION

Intralox belts and accessories are available in general and special application materials. For complete material descriptions, see General Application Belt Materials and Special Application Belt Materials.

Contact Intralox Customer Service for more information. Current telephone numbers are listed on the back cover.

For specific recommendations on chemical properties, see Chemical Resistance Guide.

STEP 3: SELECT THE BEST BELT SURFACE, PITCH, AND DRIVE METHOD

Next in the process of choosing the belt for your application is to determine the belt surface or style best suited for the product or material being conveyed.

NOTE: Unless otherwise noted, all belts have fully flush edges.

The pitch of the belt is the next differentiating feature. Smaller pitch reduces chordal action (over similar size sprockets) and the space required for product transfer. Intralox belts are available in the following belt pitches:

0.315 in (8.0 mm)	1.07 in (27.2 mm)	2.07 in (52.6 mm)
0.50 in (12.7 mm)	1.44 in (36.6 mm)	2.50 in (63.5 mm)
0.60 in (15.2 mm)	1.50 in (38.1 mm)	3.00 in (76.2 mm)
1.00 in (25.4 mm)	2.00 in (50.8 mm)	

Also consider the drive method. Where back tension is an important consideration, drive method plays a significant role. Intralox belts are either hinge-driven or center-driven.

STEP 4: SELECT A BELT OF SUFFICIENT STRENGTH FOR YOUR APPLICATION

After choosing the material and surface style to meet your needs, next determine if the selected belt is strong enough to meet your application requirements.

ANALYSIS FOR STRAIGHT RUNNING BELTS

After making a tentative series and style selection, see Belt Selection Instructions for instructions to determine the belt pull and adjusted belt pull for comparison with the allowable strength for that belt. To make the necessary calculations for belt pull, gather the following information:

1. The product load applied to the belt, in pound-force per square foot (or Newtons per square meter),
2. The length of the proposed conveyor, in feet (or meters),
3. Any elevation changes in the conveyor, in feet (or meters),
4. The desired operating speed, in feet per minute (or meters per minute),
5. The percentage of belt area with accumulated product,
6. The maximum belt operating temperature, in degrees Fahrenheit or Celsius,
7. The type of material upon which the belt will run in the conveyor frame. For example: stainless or carbon steel, UHMW-PE, HDPE, nylon, etc.,
8. The service duty, i.e., frequent startups under heavy load, an elevating or “pushing conveyor”, etc.

ANALYSIS FOR RADIUS AND SPIRAL BELTS

These belts require a more complex analysis. The following additional information is required:

1. The length of each straight run,
2. The turning angle and direction of each turn, and
3. The inside turn radius, measured from the inside edge of the belt.

STEP 5: OTHER IMPORTANT CONSIDERATIONS

Consider the following factors before proceeding any further with belt selection.

ROD MATERIAL

Default rod materials for each belt style and material are listed in the belt data tables in the Product Line chapter. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application. Contact Intralox Customer Service for more information.

BELT MATERIAL GROWTH

Belt materials, especially nylon, can expand or contract depending on storage and use conditions. In high-temperature and high-humidity environments, belts can expand in width and length over time. In cooler, drier conditions, belts can contract. Intralox provides belt widths and tolerances that account for potential expansion and contraction during the belt assembly process. Operating conditions are not accounted for. Once a belt leaves our assembly facility, environmental conditions can cause the belt width to change. Contact Intralox Customer Service for more information.

BELT SPEED

The belt speed affects the wear and life expectancy in these ways:

1. Hinge and sprocket wear: The frequency of module rotation about the hinge rods (as the belt engages and disengages the sprockets) is directly proportional to speed. The rotary motion can cause wear to both rods and modules. This wear rate, however, is inversely proportional to the belt’s length, i.e., a shorter conveyor can wear faster than a longer one if both are running at the same speed. It follows that sprocket/tooth wear is directly proportional to speed. Sprockets with more teeth cause less module/hinge rotation, and so less wear than sprockets with fewer teeth.
2. Belt surface wear: As belts slide over carryways, returnways, shoes, and other fixed members, some wear is to be expected. The most destructive conditions are high speed, heavy loads, abrasive materials, and dry or non lubricated operation.
3. Dynamic effects of high-speed operation: Two effects of high-speed conditions are belt *whipping* or oscillating in unsupported sections, and *load surges* as heavy, stationary products are suddenly accelerated to belt speed. Where possible, avoid both of these conditions.

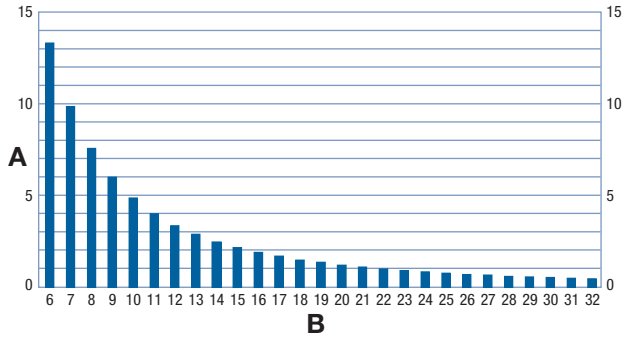
ABRASIVE CONDITIONS AND FRICTION EFFECTS

In order to extend belt life, abrasives in a conveying application must be identified, the best combination of materials chosen, and protective features included. Abrasives will wear away any material, but the correct material choice can significantly increase belt life. In highly abrasive applications, the hinge rods and sprockets are usually the first elements to be affected. Hinge rod wear typically results in excessive belt-pitch elongation. This can prevent proper tooth engagement, increasing the wear on sprocket teeth. Intralox offers stainless steel split sprockets and abrasion resistant rods that work to increase belt life.

CHORDAL ACTION AND SPROCKET SELECTION

As the modules of belts engage their driving sprockets, a pulsation occurs in the linear velocity of the belt. This pulsation is due to chordal action, which is the rise and fall of a module as it rotates around a shaft centerline. It is characteristic of all sprocket-driven belts and chains. The variation in speed is inversely proportional to the number of teeth on the sprocket. For example, a belt driven by a six-tooth sprocket has a pulsating speed variation of 13.4%, while a belt driven by a 19-tooth sprocket has a variation of only 1.36%.

- In applications where product tipping is a concern, or where smooth, even speed is critical, use sprockets with the maximum number of teeth available.



A Percent of speed variation
B Number of sprocket teeth
Figure 5: Pulsating speed variation

SHAFTS

Intralox, LLC USA can supply square shafts, machined to your specification, in standard sizes of 5/8 in, 1 in, 1.5 in, 2.5 in, 3.5 in, 40 mm and 60 mm. Available materials are carbon steel (C-1018) (not available in 40 mm and 60 mm) and stainless steel (303, 304 and 316). Contact Intralox Customer Service for more information.

Intralox, LLC Europe offers square shafts in standard sizes of 25 mm, 40 mm, 60 mm, 65 mm, and 90 mm. Available materials are carbon steel (KG-37) and stainless steel (304).

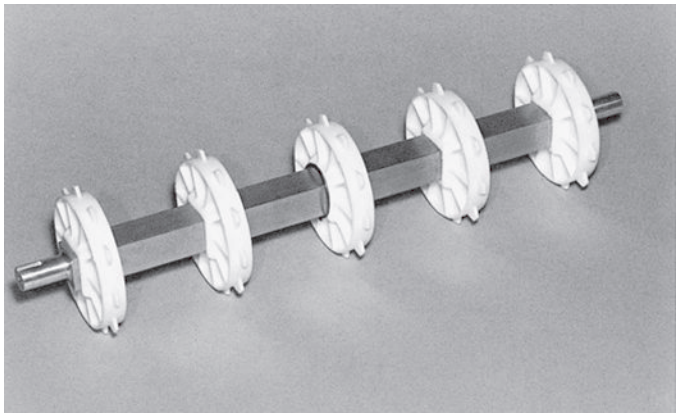


Figure 6: Square shaft

Square shafts need turning of bearing journals only. No keyways for sprockets are required. Only one sprocket per shaft must be retained to prevent lateral belt movement and to provide positive tracking. Sprocket retention is usually accomplished by placing retainer rings on opposite sides of the center sprocket. Some retainer rings rest in grooves cut into the four corners of the shaft. These grooves introduce stress concentration zones on the shaft. Under high load conditions, the grooves can lead to a premature fatigue failure of the shaft. Self-set retainer rings and split collar retainer rings are available which do not require grooves.

SHAFT STRENGTH

The two primary concerns regarding the strength of the conveyor drive shafts are 1) the ability to pull the belt without excessive shaft deflection, and 2) the strength to transmit the torque for driving the belt. In the first case, the shaft acts as a beam, supported by bearings and stressed by the belt's tension through the sprockets. In the second case, the shaft is being rotated by the drive motor. Resistance from the belt's tension introduces torsional (twisting) stresses. These two types of stresses, maximum deflection and maximum allowable torque, are analyzed separately. Simple formulas are provided for selecting appropriate shafts.

Maximum deflection is governed by adequate belt and sprocket tooth engagement. If the shaft deflects more than 0.10 in (2.5 mm) the sprockets may not engage properly, resulting in "jumping". On bi-directional conveyors with center-drive, the limit is increased to 0.22 in (5.6 mm) because the return side tension is greater and the tooth loading is more uniformly distributed.

WEARSTRIPS

Wearstrips are added to a conveyor frame to increase the useful life of the conveyor frame and belt, and to reduce the sliding friction forces. Proper choice of wearstrip design and material, yielding the best coefficient of friction, reduces belt and frame wear, and power requirements.

Any clean liquid, such as oil or water, will act as a coolant and as a separation film between the belt and the carryway, usually reducing the coefficient of friction. Abrasives such as salt, broken glass, soil and vegetable fibers will embed in softer materials and wear on harder materials. In such applications harder wearstrips will prolong belt life.

STATIC ELECTRICITY

Plastic belts can produce a static discharge or spark when used in a dry environment. If static electricity is a potential problem in your application, electrical grounding is recommended. Lubricating or adding moisture to the conveyor running surfaces is also recommended. Some belt styles are available in electrically conductive (EC) acetal. Contact Intralox Customer Service for more information.

2 PRODUCT LINE

GENERAL APPLICATION BELT MATERIALS

ACETAL

This material is a thermoplastic that is considerably stronger than polypropylene and polyethylene. Acetal has a good balance of mechanical and thermal properties.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Thermal expansion coefficient: 0.00072 in/ft/°F (0.11 mm/m/°C).
- Low coefficient of friction, making it a good choice for container handling and transport.
- High-strength electrically conductive (HSEC) acetal is available for applications where a slow static build-up has to be dissipated. With HSEC acetal, dissipation is slow and improves in a humid environment. HSEC acetal is available in Series 400 Non Skid.
- Good fatigue endurance and resilience.
- Relatively impact, cut, and scratch resistant.
- Specific gravity: 1.40. Not buoyant in water.

POLYETHYLENE (PE)

PE is a lightweight thermoplastic with superior flexibility and high impact strength. Intralox recommends black polyethylene for low-temperature applications exposed to direct sunlight.

- Temperature range: -100°F to 150°F (-73°C to 66°C). For exact temperatures, see the belt data table for the selected belt style.
- Thermal expansion coefficient:
  - S100 and S400 Raised Rib: 0.0015 in/ft/°F (0.23 mm/m/°C).
  - All other belts: 0.0011 in/ft/°F (0.17 mm/m/°C).
- Excellent performance at low temperatures.
- Excellent product release characteristics.
- Resistant to many acids, bases, and hydrocarbons.
- Specific gravity: 0.95. Buoyant in water.

POLYPROPYLENE (PP)

A standard material for use in general applications and where chemical resistance is required.

- Temperature range: 34°F (1°C) to 220°F (104°C).
- Thermal expansion coefficient:
  - In operating temperatures greater than 100°F (38°C): 0.0010 in/ft/°F (0.15 mm/m/°C)
  - In operating temperatures less than 100°F (38°C): 0.0008 in/ft/°F (0.12 mm/m/°C)
- A relatively strong material in normal use, polypropylene becomes somewhat brittle at low temperatures.
- Good balance between moderate strength and lightweight.
- Good chemical resistance to many acids, bases, salts, and alcohols.
- Specific gravity of 0.90. Buoyant in water.
- Not recommended in high-impact conditions below 45°F (7°C).
- Use black polypropylene for applications exposed to direct sunlight.

SPECIAL APPLICATION BELT MATERIALS

ABRASION RESISTANT (AR) NYLON

This material is recommended for wet or dry abrasive, heavy-duty applications.

- FDA-compliant material is available in black and white.
- Temperature range: -50°F to 240°F (-46°C to 116°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- Uses the same temperature factor table as regular nylon.
- Heat stabilized for superior outdoor wear.
- Specific gravity: 1.06. Not buoyant in water.

CHEMBLOX

ChemBlox™ is an engineered material optimized for food processing, where a high degree of chemical resistance is required. This material is recommended for continuous-use antimicrobial dip tanks that use peracetic acid (PAA) or similar chemicals.

- Temperature range: 0°F to 150°F (-18°C to 66°C).
- Thermal expansion coefficient: 0.00087 in/ft/°F (0.13 mm/m/°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Exceptional resistance to strong acids.
- Highly resistant to other sanitation chemicals, salts, alcohols, and oxidants.
- Resistant to UVA and UVB light, ozone, and radiation.
- Specific gravity: 1.77-1.79. Not buoyant in water.
- Tough and durable, even after continuous chemical exposure.
- Extremely hydrophobic compared to other plastics or metals.

DETECTABLE ACETAL

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable acetal is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Thermal expansion coefficient: 0.00072 in/ft/°F (0.11 mm/m/°C).
- Good impact resistance in temperatures above 34°F (1°C).
- Specially formulated for enhanced impact resistance.
- Metal-filled material does not rust or expose hazardous sharp fibers.
- Specific gravity: 1.61. Not buoyant in water.
- Available in select styles across a wide range of belt series. Contact Intralox Customer Service for more information.

DETECTABLE MX

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable MX is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Detection package will not rust and contains only food-safe additives.
- Not buoyant in water.
- For series and accessory availability, contact Intralox Customer Service.

DETECTABLE NYLON

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable nylon is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: -50°F to 180°F (-46°C to 82°C).
- Thermal expansion coefficient: 0.00072 in/ft/°F (0.11 mm/m/°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- Uses the same temperature factor table as regular nylon.
- Metal-filled material does not rust or expose hazardous sharp fibers.
- Specific gravity: 1.06. Not buoyant in water.
- For wet-abrasive or dry-abrasive, heavy-duty applications.
- Available for S1700 belts.

DETECTABLE POLYPROPYLENE A22

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable polypropylene A22 is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: 0°F to 150°F (-18°C to 66°C).
- Good impact resistance in temperatures above 34°F (1°C).
- Thermal expansion coefficient: 0.0011 in/ft/°F (0.17 mm/m/°C).
- Specially formulated for enhanced impact resistance.
- Specific gravity: 1.13. Not buoyant in water.
- Metal-filled material does not rust or expose hazardous additives.
- Available in select styles across a wide range of belt series. Contact Intralox Customer Service for more information.

EASY RELEASE PLUS

This material resists rubber sticking and maintains dimensional stability in the presence of oils and high temperatures. Easy Release PLUS is appropriate for tire industry applications.

- Temperature range: 34°F to 220°F (1°C to 104°C).
- Thermal expansion coefficient: 0.0004 in/ft/°F (0.06 mm/m/°C).
- Not buoyant in water.
- Easy Release PLUS is available in S1400 Flat Top.

EASY RELEASE TRACEABLE POLYPROPYLENE

This material was developed to resist rubber sticking and offer metal detectability for tire applications where stickiness and product contamination can be problematic.

- Temperature range: 34°F to 220°F (1°C to 104°C).
- Buoyant in water.
- Available in S1400 Flat Top.

ENDURALOX POLYPROPYLENE

A specially formulated material designed to maximize the life of Intralox belts in a pasteurizer environment. Enduralox™ polypropylene protects the molecular structure of polypropylene from environmental factors such as temperature cycling, bromine, and chlorine.

- Temperature range: 34°F to 220°F (1°C to 104°C).
- A relatively strong material in normal use, Enduralox polypropylene becomes somewhat brittle at low temperatures.
- Not recommended in high-impact conditions below 45°F (7°C).
- Same physical properties as standard polypropylene.
- Good chemical resistance to many acids, bases, salts, and alcohols.
- Specific gravity: 0.90. Buoyant in water.

FLAME RETARDANT THERMOPLASTIC POLYESTER (FR TPES)

This material is UL94 V-0 rated and does not sustain a flame. Though the material does not actively burn, it does blacken and melt in the presence of flame. FR TPES is stronger than polypropylene, but not as strong as acetal.

- Temperature range: 40°F to 150°F (4°C to 66°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.45. Not buoyant in water.

HEAT RESISTANT (HR) NYLON

This material is available for dry, elevated-temperature applications. It complies with FDA regulations for use in food processing and packaging applications.

- Temperature range:
  - Continuous exposure: -50°F to 240°F (-46°C to 116°C).
  - Intermittent exposure upper limit: 270°F (132°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- UL 94 flammability rating: V-2. For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.13. Not buoyant in water.

HI-IMPACT

This material is available only for S800 Tough Flat Top. Hi-Impact was developed for applications in the food-processing industry where extreme impacts are a concern.

- Temperature range: 0°F to 120°F (-18°C to 49°C).
- Thermal expansion coefficient: 0.001 in/ft/°F (0.156 mm/m/°C).
- Greater impact resistance than acetal and polypropylene.
- Specific gravity: 1.18. Not buoyant in water.

HIGH HEAT RESISTANT (HHR) NYLON

HHR nylon is appropriate for dry, elevated-temperature applications. This material complies with FDA regulations for use in food processing and packaging applications and is USDA-FSIS accepted (meat and poultry).

- Temperature range:
  - Continuous exposure: -50°F to 310°F (-46°C to 154°C).
  - Intermittent exposure upper limit: 360°F (182°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- UL 94 flammability rating: V-2. For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.13. Not buoyant in water.

HIGH STRENGTH ELECTRICALLY CONDUCTIVE (HSEC) ACETAL

This material can be used to help dissipate static charges that can build up, especially when moving cans or other conductive objects. A metal rail or carryway can be used to ground the belt, dissipating any charge build-up in the product. Entire belts can be made from HSEC acetal, although HSEC acetal is usually spliced into regular acetal belt sections. For example, three rows of HSEC acetal for every 2 ft (0.61 m) of S100 or S900 belt, or five rows for every 2 ft (0.61 m) of S1100 belt).

- HSEC acetal has a surface resistivity of 1000 Ohms according to IEC 62631.
- Has the same chemical resistance and friction factors as regular acetal.
- Specific gravity: 1.40. Not buoyant in water.

LOW MOISTURE ABRASION RESISTANT (LMAR)

- Temperature range: -50°F to 290°F (-46°C to 143°C).
- Thermal expansion coefficient: 0.00096 in/ft/°F (0.14 mm/m/°C).
- UL 94 flammability rating: V-2 at 0.236 in (6 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- High heat resistance.
- Abrasion resistant.
- Bio-based polymer.
- Low moisture absorption provides dimensional stability.
- Not buoyant in water.

LOW WEAR PLUS

Low Wear Plus is available for applications in the fruit and vegetable industry, where highly abrasive dewatering applications are a concern.

- Temperature range: 0°F to 120°F (-18°C to 49°C).
- Thermal expansion coefficient: 0.001 in/ft/°F (0.156 mm/M/°C).
- Better wear properties than nylon.
- Specific gravity: 0.18. Buoyant in water.

NYLON

This material is appropriate for applications that require good dry abrasion and chemical resistance. The two limitations to nylon are that it absorbs water and is more susceptible than acetal to cuts and gouges. Because of material expansion caused by water absorption, nylon is not recommended for very wet applications.

- Temperature range: -50°F to 180°F (-46°C to 82°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- Good chemical resistance and low temperature performance.
- Abrasion resistant in dry applications.
- Good fatigue resistance.
- Specific gravity: 1.13. Not buoyant in water.
- Stronger than polypropylene.

POLYPROPYLENE COMPOSITE

A standard material for use in applications where both high strength and chemical resistance are required.

- Temperature range: -20°F to 220°F (-29°C to 104°C).
- Thermal expansion coefficient: 0.0004 in/ft/°F (0.06 mm/m/°C).
- Excellent strength and stiffness.
- Good chemical resistance to acids, bases, salts, and alcohol.
- Specific gravity: 1.12. Not buoyant in water.
- An electrically conductive (EC) polypropylene (PP) composite can be used to help dissipate built-up static charges. The EC PP composite is available in S1200 Non Skid.

PK

PK has a good balance of positive mechanical and chemical resistance properties. This material has a similar strength to acetal, with improved toughness and chemical resistance. PK has the unique property of low hydrocarbon permeability. This property prevents oils from soaking into the belt, which results in improved product release and product yield.

- Temperature range: -40°F to 176°F (-40°C to 80°C).
- Thermal expansion coefficient: 0.00073 in/ft/°F (0.11 mm/m/°C).
- Tough.
- Abrasion resistant.
- Chemically resistant. For applications that require specific chemical resistance, contact Intralox Customer Service for a list of chemicals.
- Impact resistant.
- Specific gravity: 1.24. Not buoyant in water.

PVDF

A specialty material with excellent chemical resistance to a wide variety of acids and bases.

- Temperature range: 34°F to 200°F (1°C to 93°C).
- Thermal expansion coefficient: 0.00087 in/ft/°F (0.13 mm/m/°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Excellent resistance to acids, bases, salts, and alcohol.
- Specific gravity: 1.78. Not buoyant in water.
- Stronger than polypropylene.
- Available in S9000 Flush Grid.

SELF EXTINGUISHING LOW MOISTURE (SELM)

This material is a polymer engineered for use in spiral belts. Self-extinguishing characteristics are important to customers who want to reduce the risk of fires in their plants. Low moisture-absorption characteristics are particularly important to customers who want a material that performs in humid conditions and applications that require cleaning.

- Continuous temperature range: -50°F to 240°F (-46°C to 116°C).
- UL 94 flammability rating: V-2. For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.06. Not buoyant in water.

UVFR

This material does not sustain a flame.

- Temperature range: 34°F to 200°F (1°C to 93°C).
- Thermal expansion coefficient: 0.00087 in/ft/°F (0.13 mm/m/°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Excellent resistance to ultraviolet radiation.
- Specific gravity: 1.78. Not buoyant in water.
- UVFR is available in S1100 Flush Grid and S900 Perforated Flat Top.

UV RESISTANT

UV-resistant acetal and black polypropylene are available for applications that require UV protection.

- Temperature range:
  - UV-resistant acetal: -50°F to 200°F (-46°C to 93°C).
  - UV-resistant polypropylene: 34°F to 220°F (1°C to 104°C).
  - Not buoyant in water.

X-RAY DETECTABLE ACETAL

This material is specifically designed for detection by X-ray machines and is recommended for applications in the food-processing industry where foreign material contamination is a concern. Testing the material in an X-ray detector in the production environment is the best method for determining detection sensitivity. X-ray detectable materials are heavier in weight and require special design considerations. Intralox encourages the use of regular (unfilled) materials combined with conveyor design and preventive maintenance to mitigate the risk of foreign material contamination. Contact Intralox Customer Service for more information.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Thermal expansion coefficient: 0.0007 in/ft/°F (0.10 mm/m/°C).
- To be used upline from an X-ray detector.
- Detectable materials use additives that respond to metal detectors, X-ray detectors, or both.
- Detectable materials perform differently than materials that do not contain these additives. Dry or abrasive environments can cause increased wear to detectable materials. Increased wear creates additional dust throughout the conveyor system.
- When detectable materials must be used, always use Intralox conveyor design guidelines for decreasing wear and reducing the risk of dust.
- Has the same chemical resistance as regular acetal.
- Specific gravity: 1.73–1.70. Not buoyant in water.

X-RAY DETECTABLE PK

This material is specifically designed for detection by X-ray machines and is recommended for applications in the food-processing industry where foreign material contamination is a concern. Testing the material in an X-ray detector in the production environment is the best method for determining detection sensitivity. X-ray detectable materials are heavier in weight and require special design considerations. Intralox encourages the use of regular (unfilled) materials combined with conveyor design and preventive maintenance to mitigate the risk of foreign material contamination. Contact Intralox Customer Service for more information.

- Temperature range: -40°F to 176°F (-40°C to 80°C).
- Thermal expansion coefficient: 0.00070 in/ft/°F (0.105 mm/m/°C).
- To be used upline from an X-ray detector.
- Detectable materials use additives that respond to metal detectors, X-ray detectors, or both.
- Detectable materials perform differently than materials that do not contain these additives. Dry or abrasive environments can cause increased wear to detectable materials. Increased wear creates additional dust throughout the conveyor system.
- In dry environments, use PK rods or acetal rods rather than X-ray detectable PK rods.
- When detectable materials must be used, always use Intralox conveyor design guidelines for decreasing wear and reducing the risk of dust.
- Abrasion resistant.
- Tough and impact resistant above 32°F (0°C).
- Specific gravity: 1.51. Not buoyant in water.

BELT MATERIAL PROPERTIES

SPECIFIC GRAVITY

This value is the ratio of the material density to the density of water at normal pressures and temperatures. A specific gravity greater than 1.0 means the material is heavier than water. A specific gravity less than 1.0 means the material is buoyant in water. For the specific gravity for each belt material, see General Application Belt Materials and Special Application Belt Materials.

FRICTION FACTORS

Friction factors determine the amount of drag induced by the belt sliding on the conveyor frame or sliding under the conveyed product. Lower friction factors lead to lower line pressures, less product marring, and lower belt pull and power requirements. Higher friction is sometimes required for gradual inclines or declines, or for higher line pressures necessary to feed other equipment.

Friction factor values are highly dependent on environmental conditions. The low value of the friction factor range is an experimentally derived friction factor for new belts on new wearstrips. Only use this value in the cleanest environments, or where water or other lubricating agents are present. Most friction factors must be adjusted based on the environmental conditions surrounding the conveyor.

For a conveyor belt strength analysis, use a higher friction factor than normal if any abrasive material, such as flour, sand, cardboard dust, glass, or similar are present. Very abrasive conditions can require friction factors that are two to three times higher than recommended for clean conditions. Use either the *Intralox Engineering Program* or the manual calculations provided in Belt Selection Instructions to perform a conveyor belt strength analysis.

	Friction Between Wearstrip and Belt Material						Friction Between Product and Belt Material (used in Product Accumulation)[a]									
	UHMW-PE		Nylatron		CS & SS Steel		Glass		Steel		Plastic		Cardboard		Aluminum	
Belt Material (Conditions)	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Conditions: (S) = smooth, clean conditions. (A) = abrasive, dirty conditions. NR = not recommended.																
Acetal (S)	0.10	0.10	0.13	0.15	0.18	0.19	0.13	0.14	0.13	0.13	0.13	0.16	–	0.18	0.33	0.27
AR nylon max. temp (A)	–	0.32	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
AR nylon max. temp (S)	–	0.19	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
Detectable nylon max. temp (A)	–	0.32	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
Detectable nylon max. temp (S)	–	0.19	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
Detectable polypropylene A22	0.24	0.27	0.28	0.29	0.26	0.30	0.18	0.20	0.26	0.30	0.26	0.29	–	0.37	0.40	0.40
Easy Release PLUS (S)	0.11	0.13	0.24	0.25	0.26	0.26	–	–	–	–	–	–	–	–	–	–
FR TPES (S)	–	0.13	–	–	–	–	–	–	–	0.18	–		–		–	0.30
Hi-Impact	0.23	0.21	–	–	0.31	0.33	–	–	–	0.64	–	–	–	–	–	–
HR nylon 72°F (22°C) (A)	–	0.30	–	0.26	–	0.26	–	0.16	–	0.27	–	0.16	–	0.19	–	0.28
HR nylon 72°F (22°C) (S)	–	0.18	–	0.17	–	0.27	–	0.16	–	0.27	–	0.16	–	0.19	–	0.28
HHR Nylon max. temp. (A)	NR	NR	–	0.32	–	0.39	–	0.19	–	0.27	–	0.47	–	0.23	–	0.25
HHR Nylon max. temp. (S)	NR	NR	–	0.18	–	0.27	–	0.19	–	0.27	–	0.47	–	0.23	–	0.25
HSEC acetal (S)	0.10	0.10	0.13	0.15	0.18	0.19	0.13	0.14	0.19	0.20	0.13	0.16	–	0.18	0.33	0.27
LMAR (A)	–	0.32	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
LMAR (S)	–	0.19	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
PK	0.10	0.21	–	–	0.21	0.24	–	–	–	–	–	–	–	–	–	–
Polyethylene[b] (S)	0.24	0.32	0.14	0.13	0.14	0.15	0.08	0.09	0.10	0.13	0.08	0.08	–	0.15	0.20	0.24
Polypropylene (A)	NR	NR	0.29	0.30	0.31	0.31	0.18	0.19	0.26	0.32	0.11	0.17	–	0.21	0.40	0.40
Polypropylene (S)	0.11	0.13	0.24	0.25	0.26	0.26	0.18	0.19	0.26	0.32	0.11	0.17	–	0.21	0.40	0.40

Belt Material (Conditions)	Friction Between Wearstrip and Belt Material						Friction Between Product and Belt Material (used in Product Accumulation)[a]									
	UHMW-PE		Nylatron		CS & SS Steel		Glass		Steel		Plastic		Cardboard		Aluminum	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Conditions: (S) = smooth, clean conditions. (A) = abrasive, dirty conditions. NR = not recommended.																
Polypropylene composite (S)	0.30	0.35	–	–	0.31	0.37	0.24	0.23	0.36	0.32	0.17	0.21	–	–	0.55	0.45
PVDF	–	–	–	–	0.20	0.20	–	–	0.20	0.20	–	–	–	–	0.15	0.15
SELM (A)	–	0.32	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
SELM (S)	–	0.19	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
UV-resistant polypropylene	0.11	0.13	0.24	0.25	0.26	0.26	0.18	0.19	0.26	0.32	0.11	0.17	–	0.21	0.40	0.40

[a] Friction factors for friction between product and belt only apply for Flat Top, Perforated Flat Top, Mesh Top, Flush Grid and Raised Rib belts.
[b] Polyethylene is not recommended for container handling.

TEMPERATURE

Temperature affects the physical properties of thermoplastic materials. Generally, as the operating temperature increases, belts weaken in strength, but become tougher and more impact-resistant. In colder applications, belts become stiffer and sometimes become brittle.

For temperature factors for Intralox belt materials, see Table 2: Temperature Factors.

THERMAL EXPANSION AND CONTRACTION

With few exceptions, the dimensions of all substances increase as their temperature is increased and contract as their temperature is decreased. Since plastics expand and contract rather significantly, this factor must be considered in the conveyor design whenever operating temperatures differ from ambient temperature. For more information, see Dimension Changes in the Design Guidelines chapter.

To calculate expected dimension changes due to thermal expansion or contraction, use CalcLab or the following formula.

Formula 1:

$$\Delta = L \text{ or } W \times (T_2 - T_1) \times e$$

- Δ change in dimension, in (mm)
- L or W total belt length or width at ambient temperature, ft. (m)
- T_1 ambient temperature
- T_2 operating temperature
- e coefficient of thermal expansion, in/ft/°F (mm/m/°C), provide in the following table.

The following table provides coefficients of thermal expansion for belt and conveyor component materials.

Coefficients of Thermal Expansion		
Materials	in/ft/°F	mm/m/°C
Belts		
Acetal, HSEC acetal	0.00072	0.11
Composite polypropylene	0.0004	0.06
ChemBlox	0.00087	0.13
Detectable acetal	0.00072	0.11
Detectable MX	0.00072	0.11
Detectable nylon	0.00072	0.11
Detectable PP A22	0.0011	0.17
Easy Release PLUS	0.0004	0.06
Easy Release Traceable PP (greater than 100°F [38°C])	0.001	0.15
Easy Release Traceable PP (less than 100°F [38°C])	0.0008	0.12
Enduralox PP	0.0004	0.06

Coefficients of Thermal Expansion		
Materials	**in/ft/°F**	**mm/m/°C**
Belts		
Flame retardant	0.0008	0.12
Hi-Impact	0.0010	0.156
LMAR	0.00096	0.15
Low Wear Plus	0.001	0.15
Nylon (HR, HHR, AR)	0.0005	0.07
PK	0.00073	0.11
Polyethylene: S100 belts	0.0015	0.23
Polyethylene: S400 Raised Rib belts	0.0015	0.23
Polyethylene: all other belts	0.0011	0.17
Polypropylene (greater than 100°F [38°C])	0.0010	0.15
Polypropylene (less than 100°F [38°C])	0.0008	0.12
PVDF	0.00087	0.13
SELM	0.0005	0.07
UVFR	0.00087	0.13
UV-resistant acetal	0.00072	0.11
UV-resistant polypropylene (greater than 100°F [38°C])	0.001	0.15
UV-resistant polypropylene (less than 100°F [38°C])	0.0008	0.12
X-ray detectable	0.00072	0.10
Wearstrips		
HDPE and UHMW-PE -100°F to 86°F (-73°C to 30°C)	0.0009	0.14
HDPE and UHMW-PE 86°F to 210°F (30°C to 99°C)	0.0012	0.18
Nylatron	0.0004	0.06
Teflon	0.0008	0.12
Metals		
Aluminum	0.00014	0.02
Steel (carbon and stainless)	0.00007	0.01

BELT MATERIAL COMPLIANCE

FDA COMPLIANT

The material meets the FDA requirements described in the applicable Code of Federal Regulations, Chapter 21, Part 177 as noted. The material is chemically acceptable to the USDA for repeat use applications in slaughtering, processing, transporting, and storage areas in direct contact with meat or poultry products.

EU COMPLIANT

The material complies with the framework regulation 1935/2004/EC. The monomers and additives used to make the plastic are listed in the Union List. When tested to the criteria described in EU Regulation 10/2011, the finished article did not exceed the overall migration limit (OML) and any applicable specific migration limits (SML).

3A DAIRY TESTED

This test is based on materials, not product design. In accelerated use testing, the materials show that when they are cleaned and sanitized they maintain essential functional properties and surface finish.

Belt Material Compliance[a]			
Material Name	**FDA Compliant**	**EU Compliant**	**3-A Dairy Tested**
Acetal	FCN 1892	1935/2004/EC Regulation 10/2011	20-27
AR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	20-27 (white)
ChemBlox™	21 CFR 177.2510	1935/2004/EC Regulation 10/2011	Not tested
Detectable acetal	21 CFR 177.2470	1935/2004/EC Regulation 10/2011	20-25
Detectable MX A25	21 CFR 177.2480	1935/2004/EC Regulation 10/2011	20-27
Detectable nylon	21 CFR 177.1500	Not compliant due to sizing agent	Not tested
Detectable polypropylene A22	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-27
Enduralox polypropylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	Not tested
HR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	20-27 (white)
HHR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
Hi-Impact	21 CFR 177.2600	1935/2004/EC Regulation 10/2011	Not tested
Hi-Temp	21 CFR 177.2415	1935/2004/EC Regulation 10/2011	Not tested
LMAR	FCN 1573	1935/2004/EC Regulation 10/2011	Not tested
Low Wear Plus	21 CFR 177.2600	1935/2004/EC Regulation 10/2011	Not tested
Nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
Polyethylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-23 (blue, natural, red)
Polypropylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-25 (blue, white, natural)
Polypropylene composite	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	Not tested
PK	FCN 1847	1935/2004/EC Regulation 10/2011	Not tested
SELM	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
X-ray detectable acetal	21 CFR 177.2470	1935/2004/EC Regulation 10/2011	Not tested
X-ray detectable PK	FCN 1847	1935/2004/EC Regulation 10/2011	Not tested

[a] Contact Intralox Customer Service to verify compliance for specific belt series, styles, and material color combinations.

GENERAL APPLICATION SPROCKET MATERIAL

ACETAL

These sprockets are used for most general-purpose applications. This material is considerably stronger than polypropylene and polyurethane, and has a good balance of mechanical, thermal, and chemical properties.

- Acetal has good fatigue endurance and resilience.
- Acetal is resistant to wear caused by abrasive applications.
- Temperature range: -50°F to 200°F (-46°C to 93°C).
- This material complies with FDA regulations for use in food processing and packaging applications.

SPECIAL APPLICATION SPROCKET MATERIALS

Not all sprocket pitch diameters, bore sizes, and material combinations are available in all series. Certain sprockets are made to order, and are not stocked. Some sprockets have long lead time items. Contact Intralox Customer Service for more information.

GLASS-FILLED NYLON

This material is more abrasion resistant than acetal but not as abrasion resistant as stainless steel. Glass-filled nylon is not chemical resistant.

- Also available as a two-material split sprocket with a polypropylene joining plate and a glass-filled nylon tooth plate.
- Temperature range for split sprockets with polypropylene joining plates: 45°F to 220°F (7°C to 104°C).
- Temperature range for all other glass-filled nylon sprockets: -51°F to 240°F (-46°C to 116°C).

NYLON

These sprockets are used in abrasive applications.

- Temperature range is -50°F to 240°F (-46°C to 116°C).

POLYPROPYLENE

These sprockets are used for applications where chemical resistance can be required.

- Polypropylene (PP) has good chemical resistance to many acids, bases, salts, and alcohols.
- The temperature range of PP is 34°F to 220°F (1°C to 104°C).
- A relatively strong material in normal use, PP exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).
- This material complies with FDA regulations for use in food processing and packaging applications.
- Contact Intralox Customer Service for PP sprocket availability.

POLYPROPYLENE COMPOSITE

Polypropylene composite is a standard material for use in applications where both high strength and chemical resistance are required.

- Excellent strength and stiffness.
- Good chemical resistance to acids, bases, salts, and alcohol.
- Specific gravity: 1.12.
- Temperature range: -20°F to 220°F (-29°C to 104°C).
- The thermal expansion coefficient: 0.0004 in/ft/°F (0.06 mm/m/°C).

POLYURETHANE

These sprockets are used for applications where abrasive wear is common.

- The temperature range of polyurethane is 0°F to 120°F (-18°C to 49°C). Polyurethane becomes soft and flexible at high temperatures and has good chemical resistance.

POLYURETHANE COMPOSITE

This material is extremely rigid and can handle a large range of chemicals and temperatures.

- The temperature range is -50°F to 240°F (-46°C to 116°C).
- Avoid polyurethane composite split sprockets in high impact conditions below 45°F (7°C).
- Polyurethane composite split sprockets are recommended for drive shafts only.
- Some polyurethane composite split sprockets consist of one polyurethane composite tooth plate assembled between polypropylene joining plates that form the hub of the sprocket. Other polyurethane composite split sprockets do not use joining plates.

STAINLESS STEEL

These split sprockets are used in applications with abrasive wear, or when shaft removal is not practical. There are two types of stainless steel sprockets. The all-metal abrasion resistant sprockets are available in a many series and pitch diameters. The stainless steel split consists of one to three stainless steel tooth plates assembled between polypropylene joining plates that form the hub of the sprocket.

- The sprocket is split into two pieces for easy assembly on and off a shaft.
- Stainless steel split sprockets have good chemical resistance.
- The temperature range for polypropylene is 34°F to 220°F (1°C to 104°C).
- A relatively strong material in normal use, polypropylene exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).
- These materials are FDA-compliant for use in food processing and packaging applications.
- These sprockets are built standard with 304 stainless steel plates and can be specially ordered with 316 stainless steel plates.
- Contact Intralox Customer Service for availability.

ULTRA ABRASION RESISTANT POLYURETHANE

- For abrasive, heavy-duty applications.
- For non-FDA applications.
- Temperature range -40°F to 160°F (-40°C to 70°C).
- Series 400 has a lower rating when using ultra abrasion resistant polyurethane sprockets.

ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW-PE)

- Temperature range: -100°F to 150°F (-73°C to 66°C).

SPROCKET MATERIAL AVAILABILITY

The following table lists the materials available for each Intralox sprocket by series and pitch diameter. Note: not all sprockets of each pitch diameter are available in all listed materials. A material available for one bore type or bore size is not always available for other bore types or bore sizes of the same series and pitch diameter sprocket. Sprockets are either stocked or made-to-order, and can have long lead times. Lead times vary by sprocket. Some make-to-order sprockets also have set up charges. Contact Intralox Customer Service for specific lead times and availability.

Pitch Diameter in (mm)	Number of Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass-Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Polyurethane	Poly-propylene Composite
Symbol legend: • = available.												
S100												
2.0 (51)	6	•	•									
3.5 (89)	11	•	•	•			•					
6.1 (155)	19	•	•	•			•					
S200												
4.0 (102)	6	•	•				•					
6.4 (163)	10	•	•		•		•					
10.1 (257)	16	•	•		•							

Pitch Diameter in (mm)	Number of Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass-Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Polyurethane	Poly-propylene Composite
Symbol legend: • = available.												
S400												
4.0 (102)	6	•	•	•		•	•					
5.2 (132)	8	•	•	•								
5.8 (147)	9			•[c]								
6.4 (163)	10	•	•	•	•	•				•	•	
7.8 (198)	12	•	•	•	•	•				•	•	
8.4 (213)	13			•[c]								
10.1 (257)	16	•	•	•	•	•				•	•	
S560												
1.8 (46)	18	•										
2.4 (61)	24	•										
3.2 (81)	32	•										
3.6 (91)	36	•										
S800												
4.0 (102)	6	•	•				•					
5.2 (132)	8	•	•	•			•					
6.5 (165)	10	•	•	•[d]			•				•	
7.7 (196)	12	•	•	•[d]			•				•	
10.3 (262)	16	•	•	•[d]							•	
S850												
4.0 (102)	6	•	•				•					
5.2 (132)	8	•	•	•[d]			•					
6.5 (165)	10	•	•	•[d]			•					
7.7 (196)	12	•	•	•[d]			•					
10.3 (262)	16	•	•	•[d]								
S888												
6.5 (165)	10	•				•						
7.7 (196)	12	•				•						
S900												
2.1 (53)	6	•	•									
3.1 (79)	9	•	•									
3.5 (89)	10	•	•	•								
4.1 (104)	12	•	•	•	•		•					
5.1 (130)	15			•				•				
5.8 (147)	17	•	•	•	•			•				
6.1 (155)	18	•	•	•	•		•	•				
6.8 (173)	20	•	•	•	•		•	•				
9.7 (246)	28			•								
S1000												
3.1 (7.9)	16	•				•						
4.6 (117)	24	•				•		•				•
5.8 (147)	30	•				•		•				
6.1 (155)	32	•				•		•				•

Pitch Diameter in (mm)	Number of Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass-Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Polyurethane	Poly-propylene Composite
Symbol legend: • = available.												
S1100												
1.6 (41)	8				•							
2.3 (58)	12	•			•							
3.1 (79)	16	•	•									
3.5 (89)	18	•	•	•								
3.8 (97)	20	•	•									
4.6 (117)	24	•	•	•				•				
5.1 (130)	26	•	•	•								
6.1 (155)	32	•	•	•				•				
S1200												
5.6 (142)	12			•								
6.5(165)	14			•						•		
7.4 (188)	16									•		
7.9 (201)	17									•		
10.2 (258)	22			•						•		
S1400												
3.9 (99)	12	•				•						
4.9 (124)	15	•										
5.1 (130)	16					•		•				
5.7 (145)	18	•				•		•				•
6.7 (170)	21							•				•
7.7 (196)	24	•				•						
9.9 (251)	31									•		•
S1500												
1.9 (48)	12	•										
2.3 (58)	14	•										
2.7 (69)	17	•										
3.8 (97)	24	•				•						
5.7 (145)	36	•				•						
S1600												
2.0 (51)	6	•										
3.2 (81)	10	•					•					
3.9 (99)	12	•					•					
6.4 (163)	20	•					•					
S1650												
2.0 (51)	6	•										
3.2 (81)	10	•										
3.9 (99)	12	•										
6.4 (163)	20	•										
S1700												
5.8 (147)	12										•	
6.7 (170)	14										•	
7.7 (196)	16										•	
10.5 (267)	22										•	
S1750												
6.8 (173)	14										•	
7.8 (198)	16										•	
10.6 (269)	22										•	

Pitch Diameter in (mm)	Number of Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass-Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Polyurethane	Poly-propylene Composite
Symbol legend: • = available.												
S1800												
5.0 (127)	6	•										
6.5 (165)	8	•										
8.1 (206)	10	•										
10.5 (267)	13	•										
S1900												
6.7 (170)	10			•								
10.0 (254)	15			•								
10.6 (269)	16			•								
S2100												
2.3-6.9 (58-175)	12					•						
S2200												
3.9 (99)	8	•	•									
5.3 (135)	11	•	•				•					
6.3 (160)	13	•	•									
7.7 (196)	16	•	•									
S2300												
3.9 (99)	12					•						
5.1 (130)	16					•						
5.8 (147)	18					•						
6.4 (163)	20					•						
S2400												
2.0 (51)	6	•										
2.9 (74)	9	•										
3.9 (99)	12	•	•				•	•				
5.1 (130)	16	•	•			•	•	•			•	
6.4 (163)	20	•	•					•			•	
S2600												
5.2 (132)	8	•							•			
6.5 (165)	10	•							•			
S2700												
5.2 (132)	8	•										
6.5 (165)	10	•										
S2800												
6.3 (160)	13	•										
S2850												
6.2 (157)	13	•										
S2900												
6.2 (157)	13	•										
S2950												
6.2 (157)	13	•										
S3000												
5.2 (132)	8								•			
6.5 (165)	10								•			
7.7 (196)	12								•			

Pitch Diameter in (mm)	Number of Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass-Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Polyurethane	Poly-propylene Composite
Symbol legend: • = available.												
S4000												
3.9 (99)	12	•										
4.9 (124)	15	•										
5.1 (130)	16							•				
5.7 (145)	18	•						•				
6.7 (170)	21							•				
9.9 (251)	31									•		•
S4400												
4.0 (102)	6					•						
5.3 (135)	8					•						
6.5 (165)	10							•				
7.8 (198)	12							•				
10.3 (262)	16					•		•				
S4500												
6.5 (165)	10							•				•
7.8 (198)	12							•				•
10.3 (262)	16					•		•				•
S9000												
3.3 (84)	10					•						
4.2 (107)	13					•						
6.1 (155)	19					•						
6.5 (165)	20	•		•								•
8.1 (206)	25			•								•
12.9 (328)	40								•			•
S10000												
9.9 (251)	10					•						
11.8 (300)	12					•						
13.7 (348)	14					•						
15.7 (399)	16					•						

[a] All Intralox sprockets can be classified either as stock items or as make-to-order items. Some make-to-order items incur special setup charges. Contact Intralox Customer Service for pricing, lead times, and availability.

[b] Abrasion resistant.

[c] For use with Series 400 Flush Grid acetal and HSEC acetal only.

[d] Available in three-plate, abrasion resistant split design.

BELT SELECTION INSTRUCTIONS

To determine if a belt is suitable for a particular application, the operating load versus operating strength must be identified. Use the following steps to calculate this comparison:

STEP 1: CALCULATE BELT PULL

BP is the belt tension when the belt is under load.

Formula 2:

$$BP = [(M + 2W) \times Fw + M_p] \times L + (M \times H)$$

where:
BP = belt pull (belt tension load in lbf/ft (N/m)
M = product load, lbf/ft^2 (N/m^2)
W = belt weight, lbf/ft^2 (N/m^2). See Note.
L = length of conveyor, ft (m), centerline
H = elevation change of conveyor, ft (m)
F_w = wearstrip to belt friction coefficient. See Note.
M_p = M × (F_p × % belt backed-up), load due to product accumulation. See Note.

NOTE: Obtain belt mass from the belt data table for each belt and convert belt mass to belt weight (W). Obtain F_w and F_p from the belt data table for each belt. If product accumulation is not expected, ignore M_p.

STEP 2: ADJUST CALCULATED BELT PULL FOR ACTUAL SERVICE CONDITIONS

Since the belt can experience various conditions, adjust the BP by applying an appropriate service factor (SF).

1. Use the following table to determine SF:

Operating Conditions	Add
Starts under no load, with load applied gradually	1.0
Frequent starts under load (more than once per hour)	0.2
Operation at speeds greater than 100 fpm (30 m/min)	0.2
Elevating conveyor	0.4
Pusher conveyor	0.2
Service factor (SF)	total

NOTE: At speeds greater than 50 fpm (15 m/min) on conveyors that are started with backed-up lines, consider soft-start motors.

2. Use one of the following formulas to determine the adjusted belt pull (ABP):

Formula 3:

$$ABP = BP \times SF$$

where:
ABP = adjusted belt pull, lbf/ft (N/m) of belt width
BP = belt pull
SF = service factor

Formula 4:

$$ABP \text{ for bi-directional and pusher conveyors} = BP \times SF \times 2.2$$

where:
ABP = adjusted belt pull, lbf/ft (N/m) of belt width
BP = belt pull
SF = service factor

STEP 3: CALCULATE ALLOWABLE BELT STRENGTH

Due to specific operating conditions, allowable belt strength (ABS) is sometimes less than the rated belt strength. Use the following formula to calculate the ABS.

Formula 5:

$$ABS = BS \times T \times S$$

where:
ABS = allowable belt strength
BS = belt strength from the belt data table for the selected belt. See Product Line.
T = temperature factor from Table 2: Temperature Factors.
S = strength factor from the belt data table for the selected belt. See Product Line.

The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. To get the speed/length ratio, divide the belt speed (ft/min) by the shaft centerline distance (ft). The strength factor adjusts the belt rating to account for wear caused by the combination of high speed, short conveyor lengths, and small sprocket sizes.

STEP 4: COMPARE ABP WITH ABS

If the ABS exceeds ABP, this belt is strong enough for your application. Proceed to the next steps to determine drive shaft sprocket spacing, shaft strength, and horsepower required.

If the ABS is less than ABP, consider changing some application parameters (for example, product load distribution or belt speed), until the recalculated ABP is acceptable.

STEP 5: DETERMINE MAXIMUM SPACING OF DRIVE SHAFT SPROCKETS

First, determine the percentage of allowable belt strength utilized (ABSU):

Formula 6:

$$ABSU = (ABP \div ABS) \times 100\%$$

where:
ABSU = allowable belt strength utilized
ABP = adjusted belt pull, lbf/ft (N/m) of belt width
ABS = allowable belt strength

If the calculated ABSU is above 75%, contact Intralox Customer Service to run the *Intralox Engineering Program* and verify your results.

Using the ABSU, find the maximum sprocket spacing from the *Sprocket Spacing as a Function of Belt Strength Utilized* graph for the series you are considering. See Product Line.

NOTE: Sprocket spacing on idle shafts can sometimes be greater than the spacing required on drive shafts. Do not exceed 6.0 in (152 mm) sprocket spacing on idle shafts for all series except S200, where the maximum spacing can never exceed 7.5 in (191 mm).

STEP 6: CONFIRM DRIVE SHAFT STRENGTH

Drive shafts must be stiff enough to resist excessive bending or deflecting under the belt pull, and strong enough to transmit the required torque from the driver. To ensure adequate shaft selection, determine both the drive shaft deflection and torque.

1. Select a shaft size which fits your sprocket of choice from the sprocket data page.

   NOTE: Most sprockets have more than one available bore size.

2. The shaft deflects under the combined loads of the adjusted belt pull and the shaft weight. Use the following formula to calculate the total shaft load:

Formula 7:

$$w = (ABP + Q) \times B$$

where:
w = total shaft load
ABP = adjusted belt pull, lbf/ft (N/m) of belt width
Q = shaft weight, lbf/ft (N/m), from Table 3: Shaft Data.
B = belt width, ft (m)

3. For shafts supported by two bearings, use the following formula to calculate shaft deflection. Use CalcLab to calculate deflection when using more than two bearings.

Formula 8:

$$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$

where:
D = shaft deflection
w = total shaft load
L_s = length of shaft between bearings, in (mm)
E = modulus of elasticity from Table 3: Shaft Data
I = moment of inertia from Table 3: Shaft Data

4. If the calculated deflection is less than the recommended maximum of 0.10 in (2.5 mm) for standard conveyors or 0.22 in (5.6 mm) for bi-directional conveyors, use the following formula to calculate the required torque. If the calculated deflection is at or above the recommended maximum, select a larger size shaft, a stronger material, or a shorter span between bearings, and recalculate the deflection.

Formula 9:

$$T_O = ABP \times B \times \frac{PD}{2}$$

where:
T_o = transmitted torque
ABP = adjusted belt pull, lbf/ft (N/m) of belt width
B = belt width, ft (m)
PD = sprocket pitch diameter of the selected sprocket. See Product Line.

5. Compare T_o with the maximum recommended torque on the drive shaft for the shaft journal sizes shown. See Table 4: Maximum Recommended Torque on Drive Shaft. Using a journal diameter which can be machined on the selected shaft, determine the maximum recommended torque. Ensure this value does not exceed T_o. If it does exceed T_o, select a stronger material or larger shaft.

STEP 7: DETERMINE THE POWER NEEDED TO DRIVE THE BELT

Use the following formulas to determine the required horsepower and power in watts.

Formula 10:

$$HP = \frac{ABP \times B \times V}{33000}$$

where:
HP = drive horsepower
ABP = adjusted belt pull, lbf/ft of belt width
B = belt width, ft
V = belt speed, ft/min

Formula 11:

$$W = \frac{ABP \times B \times V}{6.12}$$

$$1\ HP = 445.7\ W$$

where:
W = watts
ABP = adjusted belt pull, lbf/ft of belt width
B = belt width, ft
V = belt speed, ft/min
HP = drive horsepower

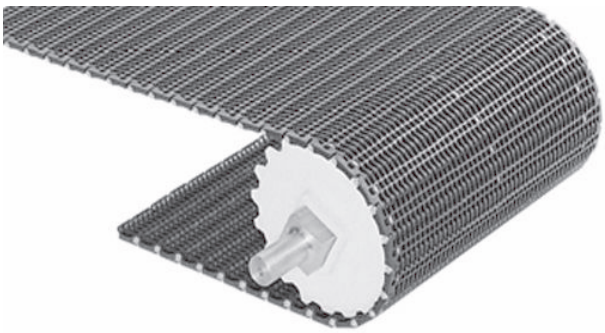
To obtain the required motor power, add expected power losses in the drive train between drive shaft and motor to the calculated power. See Power Requirements for recommendations.

Having determined the suitability of the belt, the sprocket spacing, the drive shaft size, and the power requirements, you are now ready to select accessories and design the conveyor assembly.

STRAIGHT-RUNNING BELTS

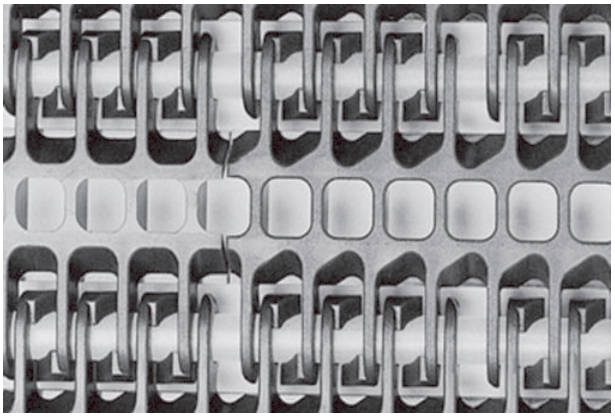
Flush Grid

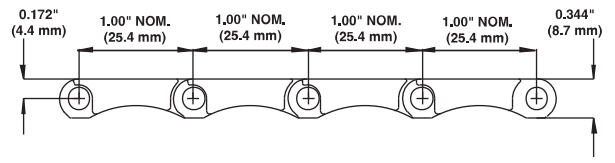
	in	mm
Pitch	1.00	25.4
Minimum Width	1.5	38
Width Increments	0.25	6.4
Opening Size (approximate)	0.2 × 0.2	5 × 5
Open Area	31%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth upper surface.
- Smaller pitch reduces chordal action and transfer dead plate gap.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For more material selections and stronger belt performance, see S560, S900, S1000, and S1100.





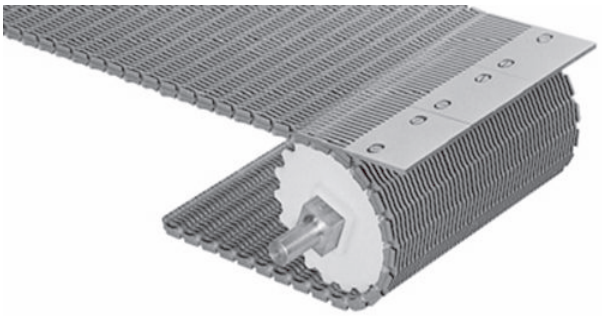
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	4,380	34 to 220	1 to 104	0.54	2.64
Polyethylene	Polyethylene	200	2,920	-50 to 150	-46 to 66	0.58	2.83
Acetal	Polypropylene	600	8,760	34 to 200	1 to 93	0.78	3.81
HSEC acetal	Polypropylene	400	5,840	34 to 200	1 to 93	0.78	3.81
Acetal[a]	Polyethylene	550	8,030	-50 to 70	-46 to 21	0.78	3.81

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

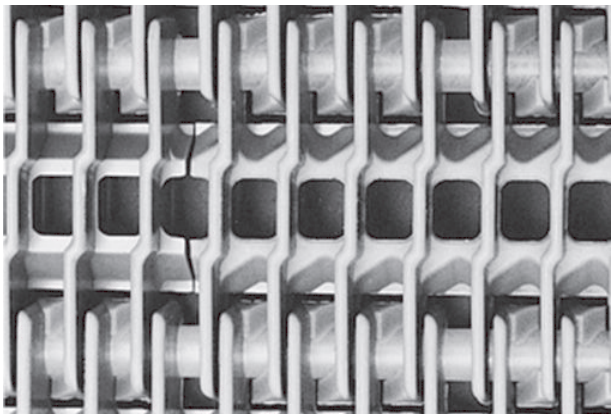
Raised Rib

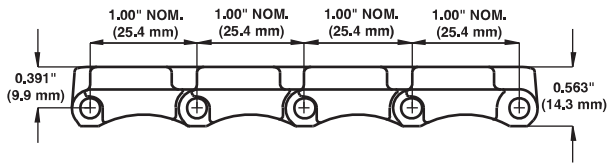
	in	mm
Pitch	1.00	25.4
Minimum Width	1.5	38
Width Increments	0.25	6.4
Opening Size (approximate)	0.2 × 0.2	5 × 5
Open Area	31%	
Product Contact Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with closely spaced ribs.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Can be used with finger transfer plates to eliminate product tipping and hang-ups.
- For more material selections and stronger belt performance, see Series 900 Raised Rib.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	4,380	34 to 220	1 to 104	0.82	4.00
Polyethylene	Polyethylene	200	2,920	-50 to 150	-46 to 66	0.88	4.29
Acetal	Polypropylene	600	8,760	34 to 200	1 to 93	1.20	5.86
Acetal[a]	Polyethylene	550	8,030	-50 to 70	-46 to 21	1.20	5.86

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

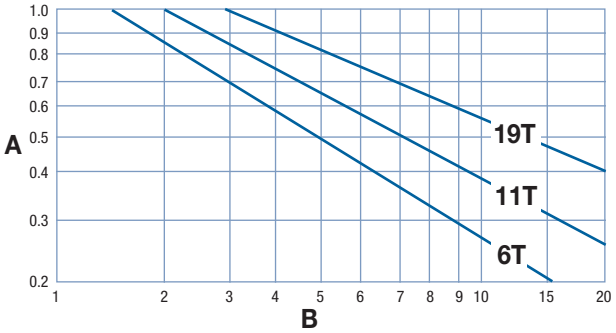
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
15	381	3	4	3
16	406	3	4	3
18	457	3	4	3
20	508	5	5	3
24	610	5	5	3
30	762	5	6	4
32	813	7	7	4
36	914	7	7	4
42	1,067	7	8	5
48	1,219	9	9	5
54	1,372	9	10	6
60	1,524	11	11	6
72	1,829	13	13	7
84	2,134	15	15	8
96	2,438	17	17	9
120	3,048	21	21	11
144	3,658	25	25	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.25 in (6.4 mm) increments beginning with minimum width of 1.5 in (38 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

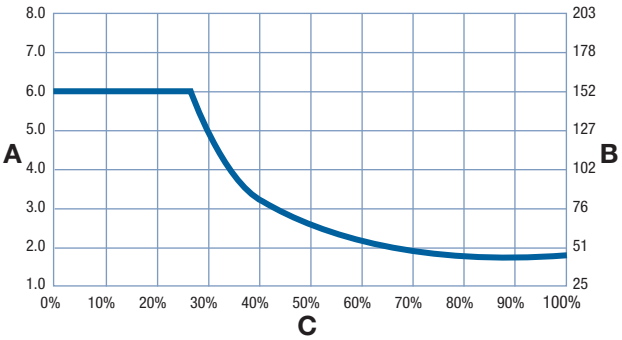
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

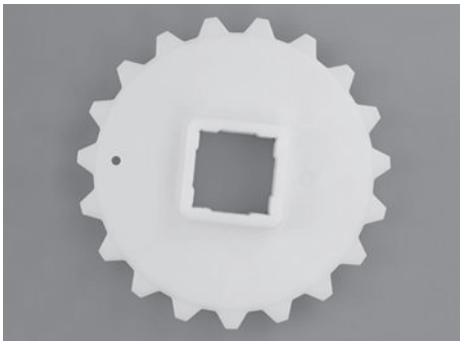
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

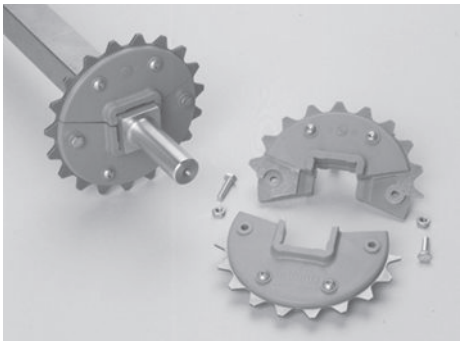
Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	2.0	51	2.1	53	0.75	19		1.0		
11 (4.05%)	3.5	89	3.7	94	0.75	19		1.0, 1.5		40
19 (1.36%)	6.1	155	6.3	160	1.25	32		1.5, 2.5		40, 60, 65



Split Metal Sprockets

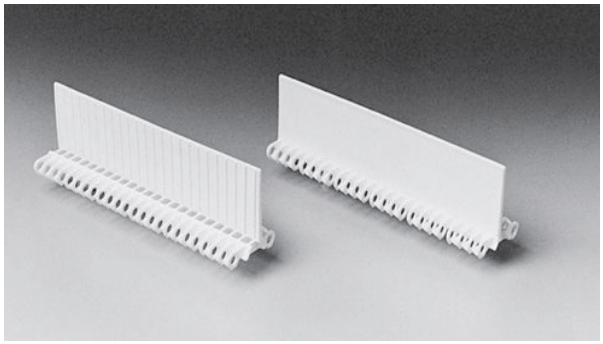
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
11 (4.05%)	3.5	89	3.7	94	1.5	38		1.5		40
19 (1.36%)	6.1	155	6.3	160	1.5	38		1.5, 2.5		40, 60, 65



Streamline/No-Cling Flights

Available Flight Height		Available Materials
in	mm	
1.5	38	Polypropylene, polyethylene, acetal

- No fasteners are required.
- Streamline/No-Cling flights are smooth on one side and vertically ribbed on one side.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Available in linear increments of 1 in (25 mm).
- Minimum indent without sideguards: 0.5 in (13 mm).



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal

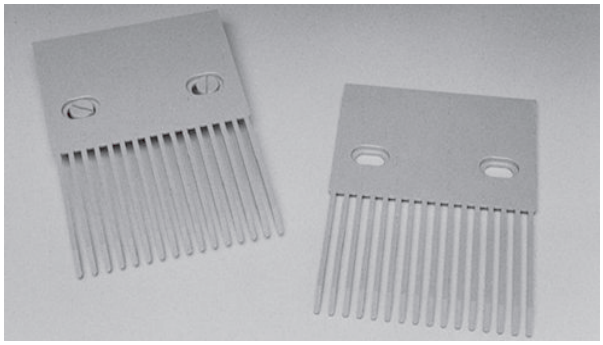
- Standard overlap design ensures product containment.
- Fastens to belt with hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 11-tooth sprockets, the sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 19-tooth sprocket.
- Standard gap between sideguards and flight edge: 0.06 in (2 mm).
- Minimum indent: 0.75 in (19 mm).



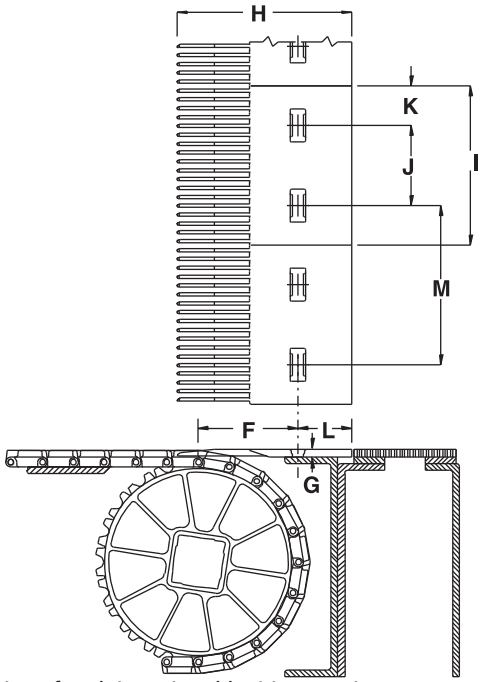
Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
4	102	16	Acetal

- Designed for use with Series 100 Raised Rib belts, to eliminate product transfer and tipping problems.
- The fingers extend between the belt ribs, to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts.



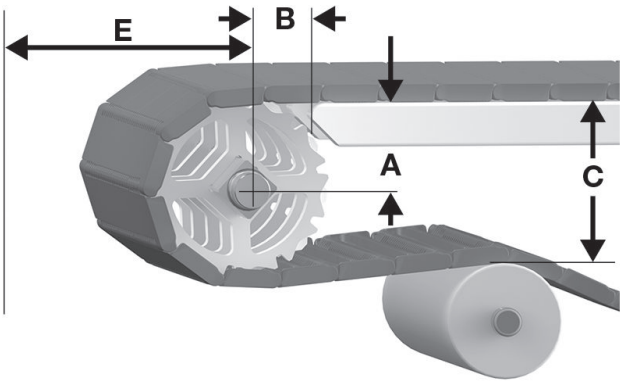
Dimensional Requirements for S100 Finger Transfer Plate Installation			
		in	mm
F		2.38	61
G		0.19	5
H		5.83	148
I		3.96	101
J		2.50	64
K		0.74	19
L		2.00	51
M	PP	3.979	101.1
	AC	3.976	101.0



M spacing between finger transfer plates, at ambient temperature
Figure 7: Finger transfer plate and conveyor assembly

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components
Figure 8: A, B, C, and E drive dimensions

S100 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid										
2.0	51	6	0.69–0.83	18–21	1.30	33	2.10	53	1.24	31
3.5	89	11	1.53–1.60	39–41	1.70	43	3.60	91	2.01	51
6.1	155	19	2.82–2.87	72–73	2.20	56	6.20	157	3.30	84
Raised Rib										
2.0	51	6	0.69–0.83	18–21	1.30	33	2.10	53	1.45	37
3.5	89	11	1.53–1.60	39–41	1.70	43	3.60	91	2.23	57
6.1	155	19	2.82–2.87	72–73	2.20	56	6.20	157	3.52	89

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

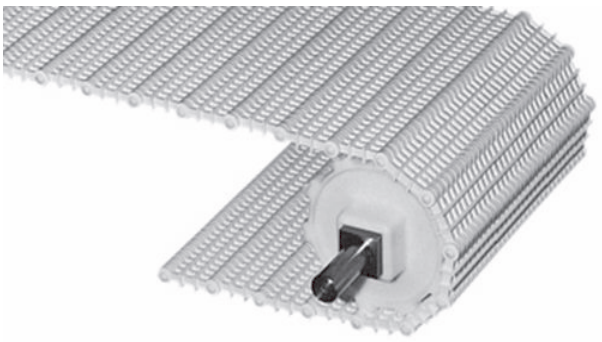
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S100 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
3.5	89	11	0.073	1.9
6.1	155	19	0.041	1.0

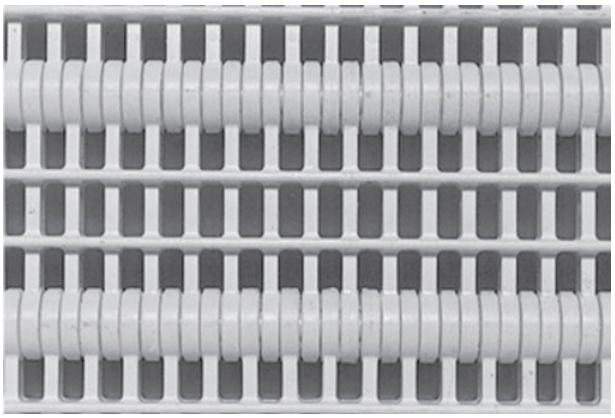
Open Grid

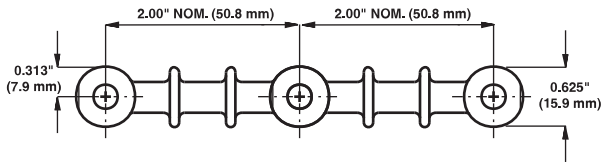
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.23 × 0.48	5.8 × 12.3
Open Area	33%	
Hinge Style	Closed	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area allows excellent drainage.
- Has double-headed hinge rods, so the belt edge is not fully flush.
- Low-profile, transverse ridges help move products up or down inclines.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights and sideguards are available.



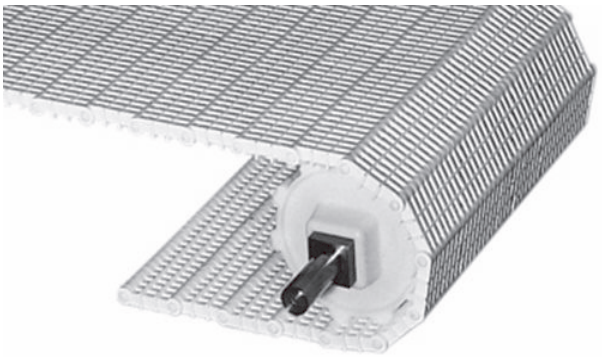


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,400	20,400	34 to 220	1 to 104	1.24	6.05
Polyethylene	Polyethylene	900	13,100	-100 to 150	-73 to 66	1.26	6.15

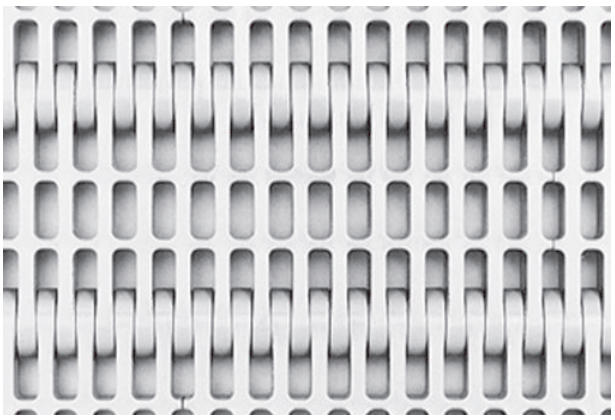
Flush Grid

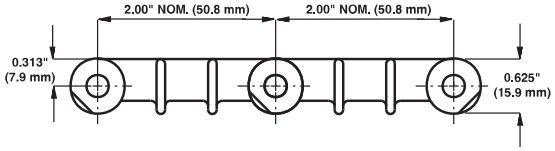
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.22 × 0.49	5.5 × 12.5
Open Area	33%	
Hinge Style	Closed	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush Grid pattern with smooth upper surface.
- Provides excellent lateral movement of containers.
- One of the strongest S200 belt styles.
- Uses double-headed hinge rods, so the belt edge is not fully flush.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For more material selections, see S400, S900, S1100, S2200, and S4500 belt styles.
- Flights and sideguards are available.



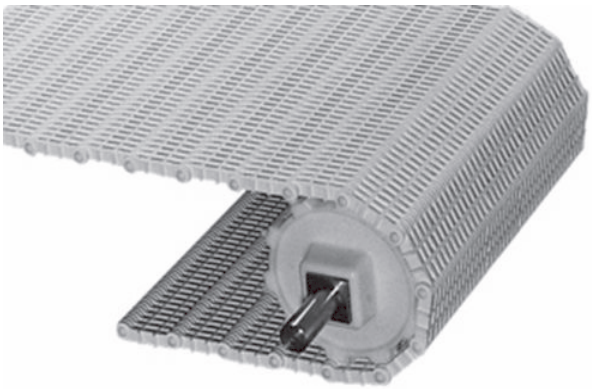


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,800	26,300	34 to 220	1 to 104	1.40	6.83
Polyethylene	Polyethylene	1,200	17,500	-100 to 150	-73 to 66	1.44	7.03

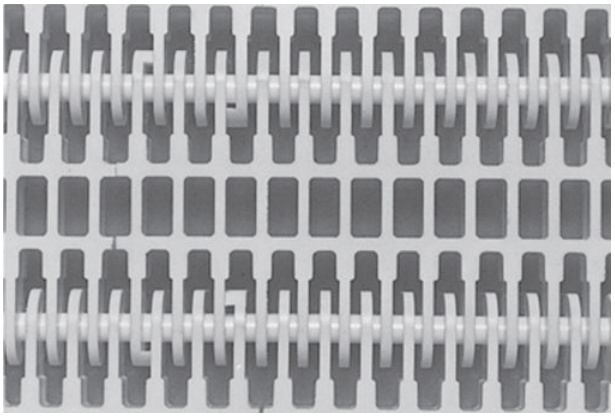
Open Hinge

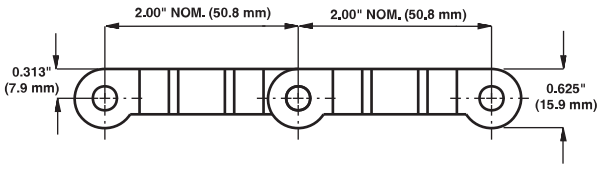
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.26 × 0.48	6.7 × 12.3
Open Area	45%	
Hinge Style	Open	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Provides a smooth surface and a generous open area for food handling.
- Uses double-headed hinge rods, so the belt edge is not fully flush.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ideal where air cooling, washing, or drying is required.
- For stronger belt performance, see S800 belts.
- Flights and sideguards are available.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	4,380	34 to 220	1 to 104	1.04	5.08
Polyethylene	Polyethylene	200	2,920	-50 to 150	-46 to 66	1.12	5.47

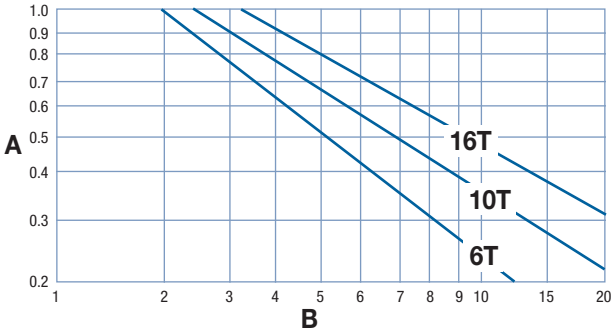
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	5	5	4
42	1,067	7	6	5
48	1,219	7	7	5
54	1,372	9	7	6
60	1,524	9	8	6
72	1,829	11	9	7
84	2,134	13	11	8
96	2,438	13	12	9
120	3,048	17	15	11
144	3,658	21	17	13
For other widths, use an odd number of sprockets at maximum 7.5 in (191 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.36 in (9.1 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

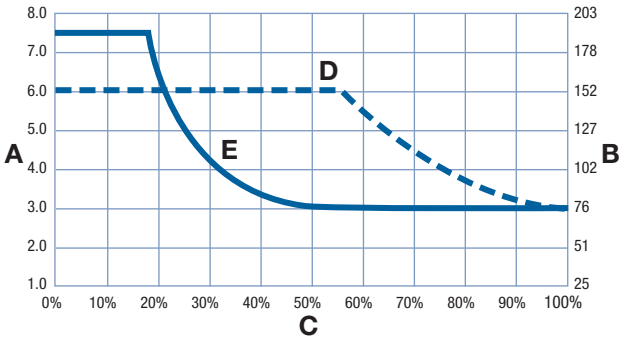
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized

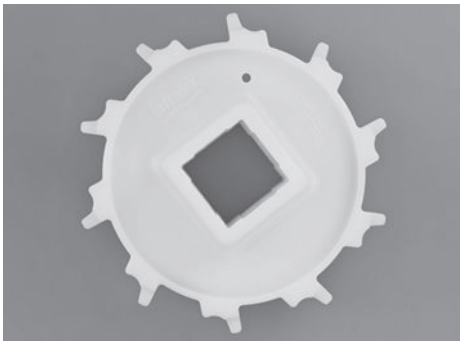


A sprocket spacing, in
B sprocket spacing, mm
C Percentage of allowable belt strength utilized
D Dashed line: double-wide sprocket
E Solid line: all other sprockets

SERIES 200

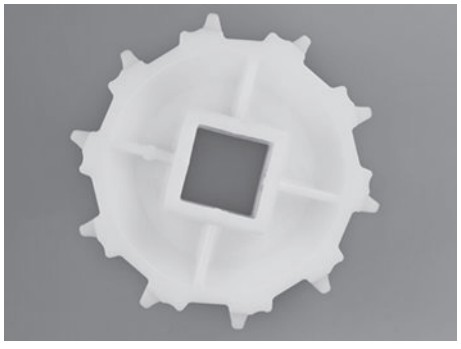
Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.9	99	1.5	38		1.5		40
10 (4.89%)	6.4	163	6.4	163	2.5	64		1.5, 2.5		40, 60
16 (1.92%)	10.1	257	10.3	262	2.5	64		1.5, 2.5		40

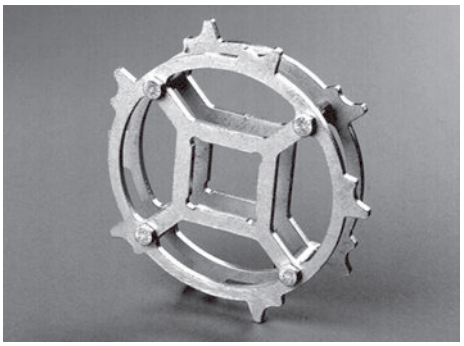


Double Wide Rim Sprockets

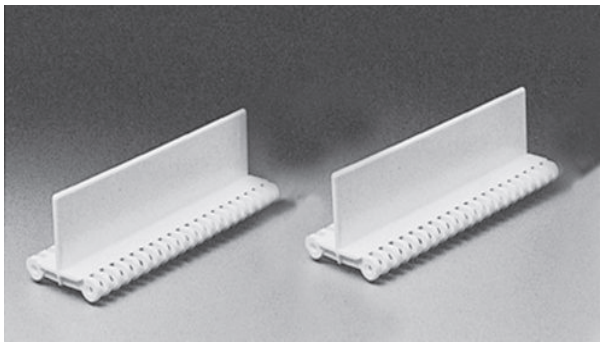
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.89%)	6.4	163	6.4	163	2.5	64		1.5		40



Metal Abrasion Resistant Sprockets

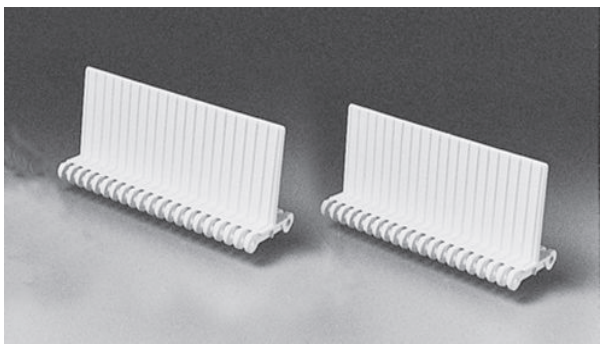
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.4	163	1.1	28		1.5, 2.5		40, 60	
16 (1.92%)	10.1	257	10.3	262	1.1	28		1.5, 2.5		40, 60, 65	

Streamline Flights

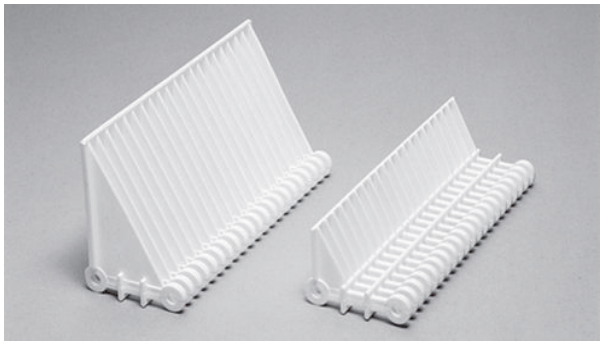
Available Flight Height		Available Materials	
in	mm		
1	25	Polypropylene, polyethylene	
2	51		
3	76		

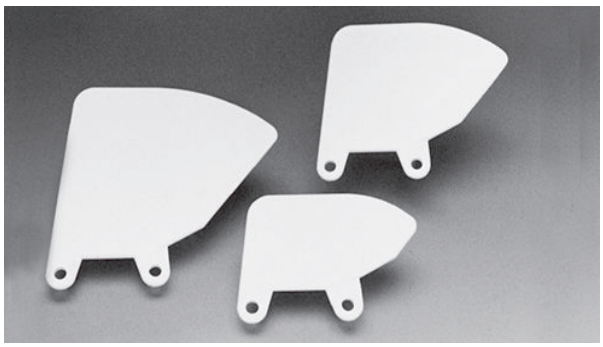
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight. Contact Intralox Customer Service for availability.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards: 0.7 in (18 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.

Double No-Cling Flights

Available Flight Height		Available Materials	
in	mm		
3	76	Polypropylene, polyethylene	

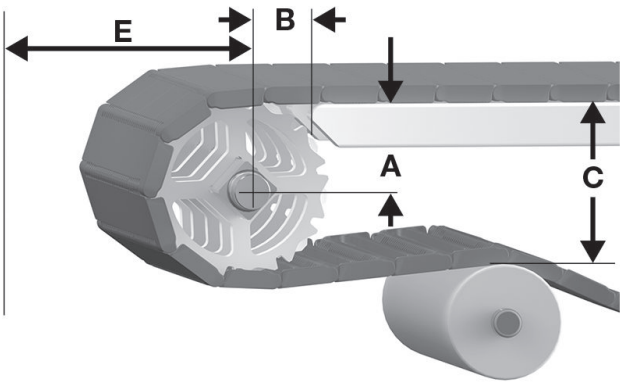
- Vertically ribbed for product release.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight. Contact Intralox Customer Service for availability.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards is 0.7 in (18 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.

Ribbed Flights			
Available Flight Height		**Available Materials**	
in	**mm**		
1.25	32	Polypropylene, polyethylene	
3	76		
• Each flight rises out of an Open Grid module and has a triangular-shaped buttress on the back side. No fasteners are required. • Can be enlarged to 6 in (152 mm) high with a welded extension. • Minimum indent without sideguards: 0.7 in (18 mm).			

Sideguards			
Available Sizes		**Available Materials**	
in	**mm**		
2	51	Polypropylene, polyethylene	
3	76		
4	102		
6	152		
• Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides. • Fastens to belt with hinge rods. No other fasteners required. • Standard gap between sideguards and flight edge: 0.3 in (8 mm). • Minimum indent: 0.7 in (18 mm).			

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 9: A, B, C, and E drive dimensions

S200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid, Open Grid, Open Hinge										
4.0	102	6	1.42–1.69	36-43	2.20	56	4.10	104	2.38	60
6.4	163	10	2.77–2.92	70-74	3.00	76	6.50	165	3.61	92
10.1	257	16	4.72–4.81	120-122	3.20	81	10.20	259	5.50	140

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

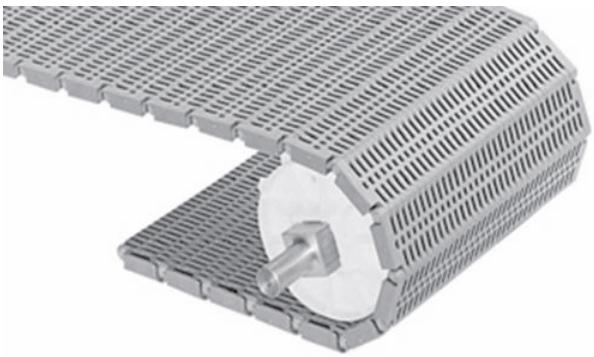
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S200 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
4.0	102	6	0.268	6.8
6.4	163	10	0.160	4.1
10.1	257	16	0.100	2.5

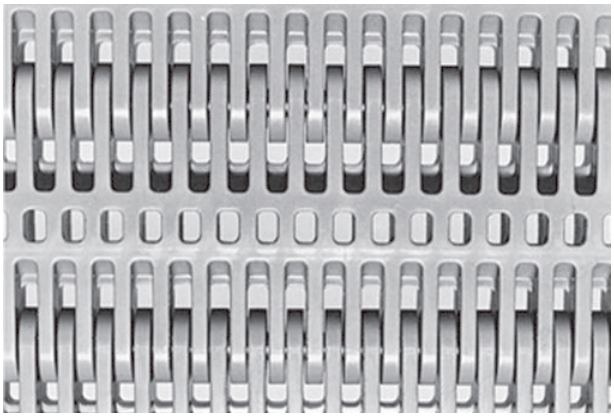
Flush Grid

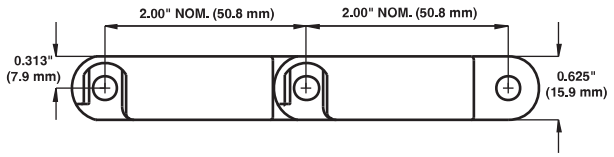
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.25 × 0.18	6.4 × 4.6
Open Area	17%	
Hinge Style	Closed	
Rod Retention; Rod Type	See *Product Notes*.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- Uses headed rods for belts without Slidelox rod retention. Uses unheaded rods for belts with Slidelox rod retention.
- Slidelox rod retention is recommended for belts 6.0 ft (1829 mm) wide and wider.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights and sideguards are available.





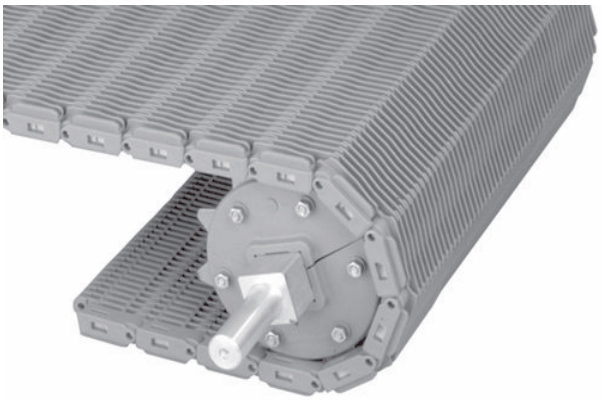
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2,400	35,000	34 to 220	1 to 104	1.82	8.89
Polyethylene	Polyethylene	1,800	26,300	-100 to 150	-73 to 66	1.90	9.28
Acetal	Polypropylene	3,200	46,700	34 to 200	1 to 93	2.77	13.51
Acetal[a]	Polyethylene	3,000	43,800	-50 to 70	-46 to 21	2.77	13.51

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

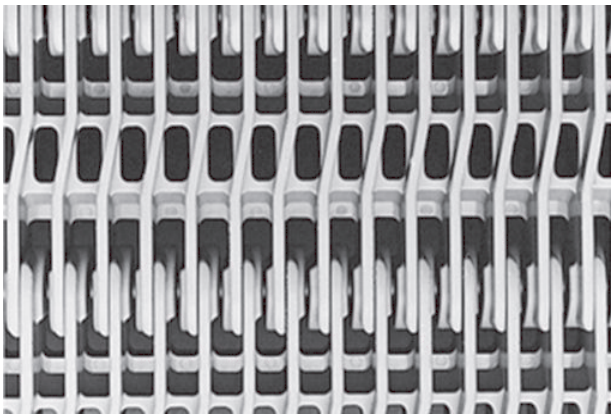
Raised Rib

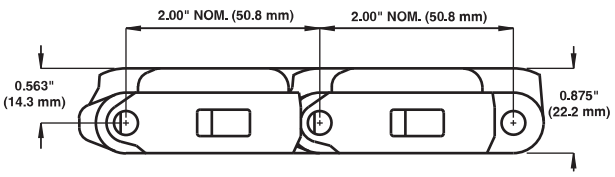
	in	mm
Pitch	2.00	50.8
Minimum Width	See *Product Notes*.	
Width Increments		
Opening Size (approximate)	0.25 × 0.24	6.4 × 6.1
Open Area	26%	
Product Contact Area	36%	
Hinge Style	Closed	
Rod Retention; Rod Type	See *Product Notes*.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- All S400 Raised Rib polyethylene belts use headed rods.
- All S400 Raised Rib polypropylene belts use the Slidelox rod retention system and unheaded rods.
- Slidelox are glass-reinforced polypropylene. For improved chemical resistance, Slidelox are also available in polyvinylidene (PVDF) for Enduralox polypropylene belts.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Use with finger transfer plates to reduce tippage at infeed and discharge.
- For stronger belt performance, see S1900 Raised Rib.
- Raised ribs extend 0.25 in (6.4 mm) above basic module.
- Custom-built in widths from 1.8 in (47 mm) and up for polyethylene and 3.5 in (89 mm) and up for polypropylene, in 0.33 in (8.4 mm) increments.



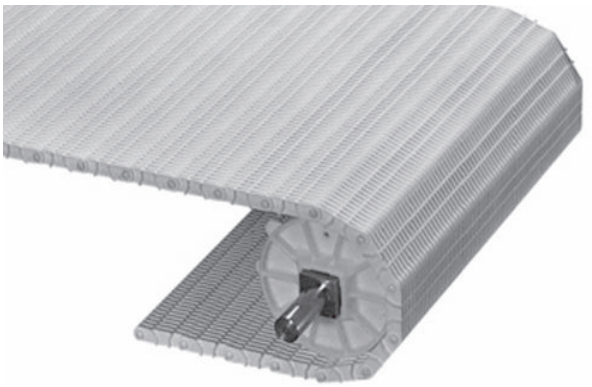


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2,400	35,000	34 to 220	1 to 104	1.95	9.52
Polyethylene	Polyethylene	1,800	26,300	-100 to 150	-73 to 66	1.98	9.67
Enduralox polypropylene	Polypropylene	2,400	35,000	34 to 220	1 to 104	1.95	9.52

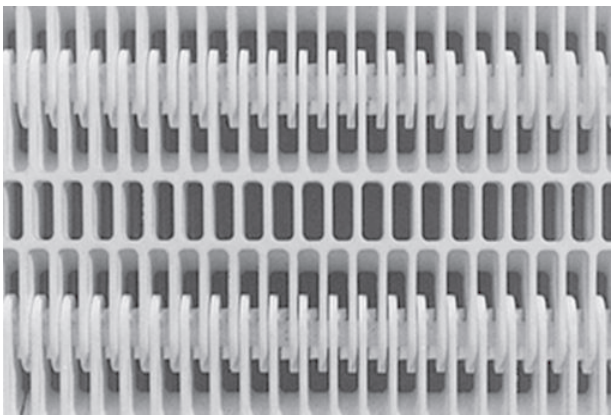
Open Hinge

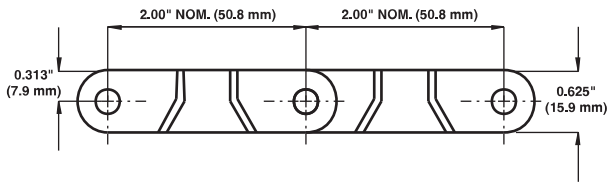
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.25	6.4
Opening Size (approximate)	0.47 × 0.18	11.9 × 4.6
Open Area	30%	
Product Contact Area	40%	
Hinge Style	Open	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area improves airflow, drainage, and cleanability.
- Shares heavy-duty rating with other belts in this series.
- Has double-headed hinge rods, so the belt edge is not fully flush.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights and sideguards are available.
- For more hygienic options, see S800 and S1600.



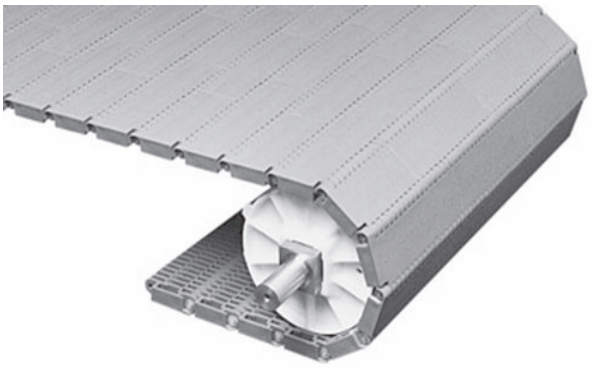


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,550	22,600	34 to 220	1 to 104	1.16	5.66
Polyethylene	Polyethylene	950	13,900	-50 to 150	-46 to 66	1.24	6.06

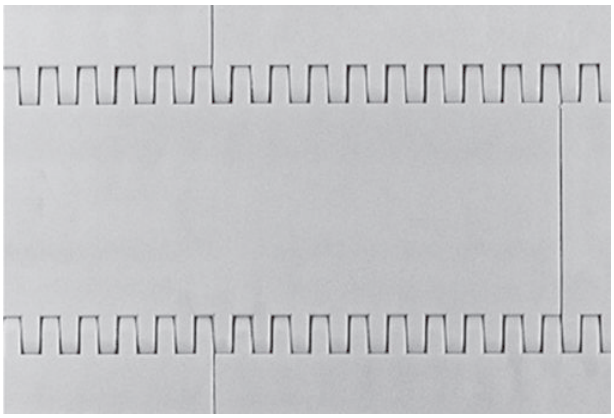
Flat Top

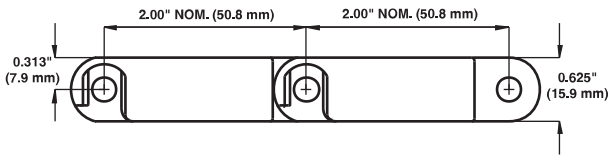
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	See *Product Notes*.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- All S400 Flat Top with abrasion resistant rods are available with Slidelox rod retention.
- Slidelox rod retention is recommended for belts 6.0 ft (1829 mm) wide and wider.
- Use headed rods for belts without Slidelox rod retention. Use unheaded rods with Slidelox rod retention.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Use abrasion resistant split sprockets with acetal S400 Flat Top.
- Flights and sideguards are available.
- For stronger belt performance, see Series 4500 Flat Top.





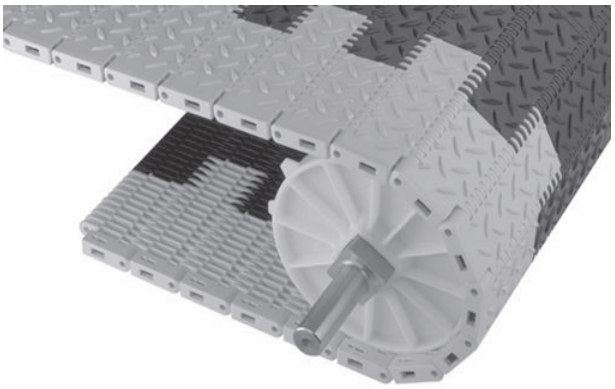
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2,400	35,000	34 to 220	1 to 104	1.81	8.82
Polyethylene	Polyethylene	1,800	26,300	-100 to 150	-73 to 66	1.90	9.28
Acetal	Polypropylene	3,200	46,700	34 to 200	1 to 93	2.74	13.38
Acetal[a]	Polyethylene	3,000	43,800	-50 to 70	-46 to 21	2.74	13.38

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

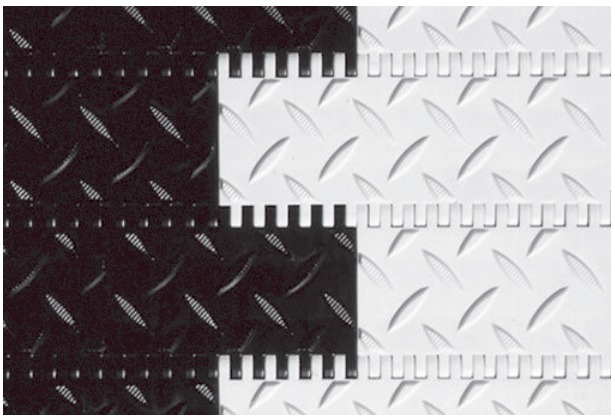
Non Skid

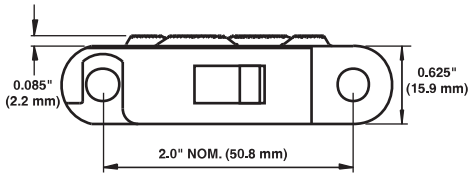
	in	mm
Pitch	2.00	50.8
Minimum Width	3.5	89
Width Increments	0.33	8.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Among highest strength rating of all Intralox belts.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For stronger belt performance, see S4500 Non Skid and S4500 Non Skid Raised Rib.
- Contact Intralox Customer Service for flight availability.



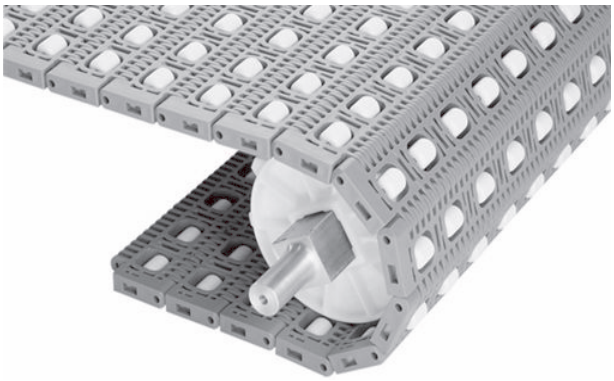


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	2,720	39,700	-50 to 200	-46 to 93	2.88	14.09
Polypropylene	Nylon	2,400	35,000	-34 to 220	1 to 104	1.81	8.84

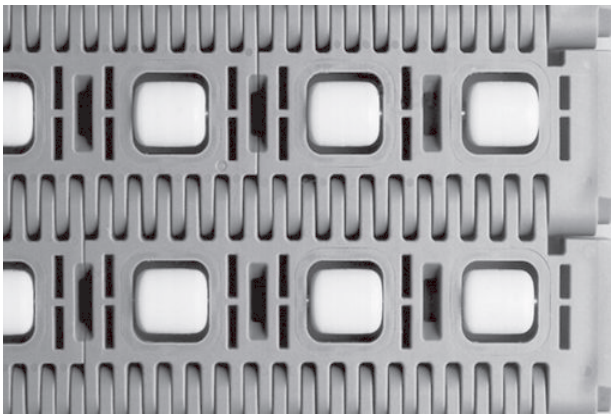
Roller Top

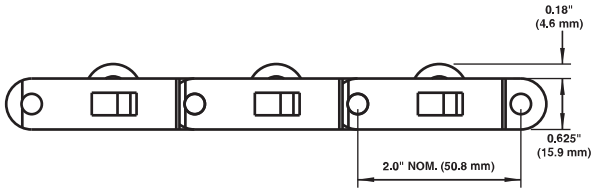
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	18%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Uses acetal rollers.
- Uses stainless steel axles.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Allows for low back pressure accumulation.
- Roller diameter: 0.70 in (17.8 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.90 in (23 mm)
- Distance to centerline of first roller: 1.3 in (33 mm)
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).



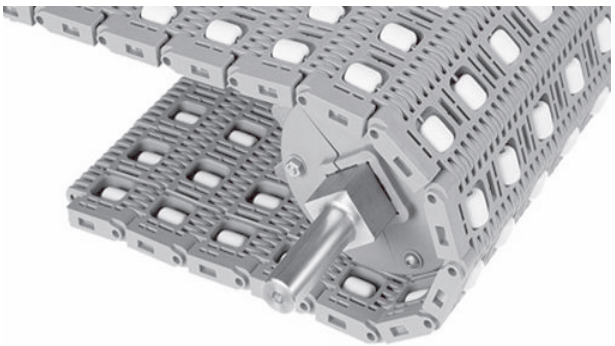


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,200	32,100	34 to 200	1 to 93	2.44	11.94

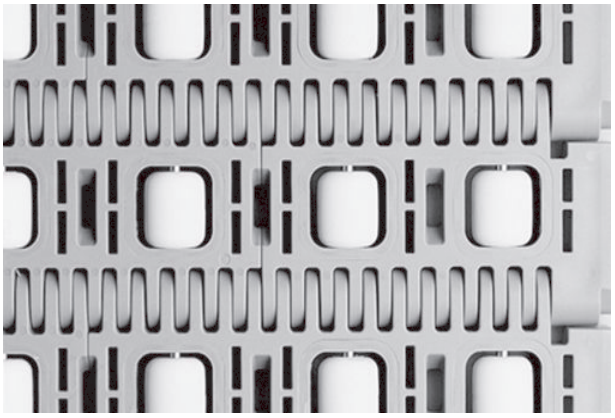
Transverse Roller Top™ (TRT™)

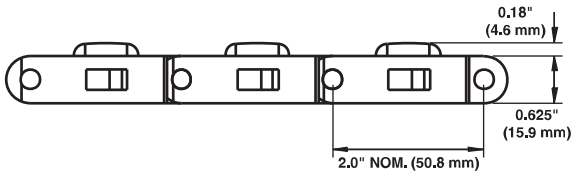
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	18%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Uses acetal rollers.
- Stainless steel axles provide durability and long-lasting performance.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for 90-degree transfers.
- For stronger belt performance, see S4400 Transverse Roller Top.
- Roller diameter: 0.70 in (17.8 mm).
- Roller length: 0.825 in (20.9 mm).
- Roller spacing: 2 in (50.8 mm).
- Standard roller indent: 0.90 in (23 mm).
- Distance to centerline of first roller: 1.3 in (33 mm).
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).



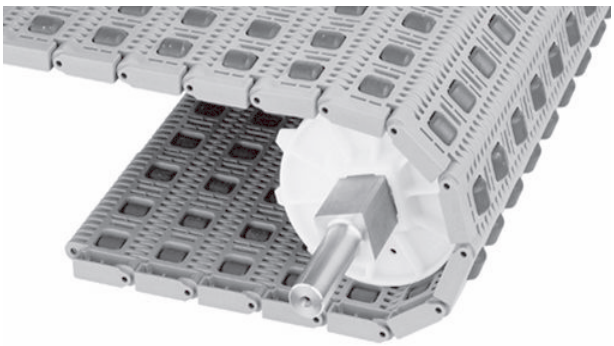


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,200	32,100	34 to 200	1 to 93	2.44	11.94

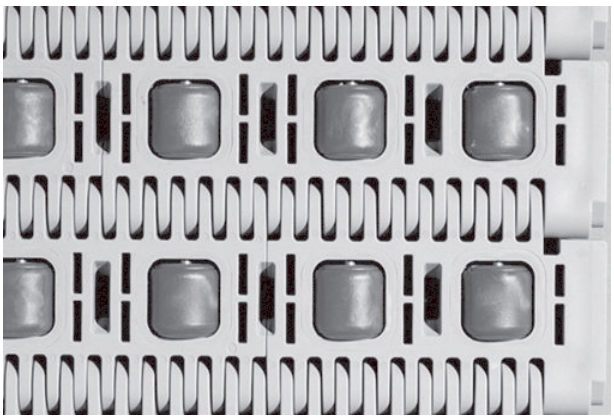
0.85-in Diameter Transverse Roller Top™ (TRT™)

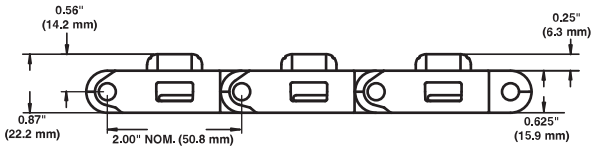
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	18%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Stainless steel axles provide durability and long-lasting performance.
- Slidelox flush edges.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for 90-degree transfers.
- For stronger belt performance, see S4400 Transverse Roller Top.
- Roller diameter: 0.85 in (21.6 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.90 in (23 mm).
- Distance to centerline of first roller: 1.3 in (33 mm).
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).



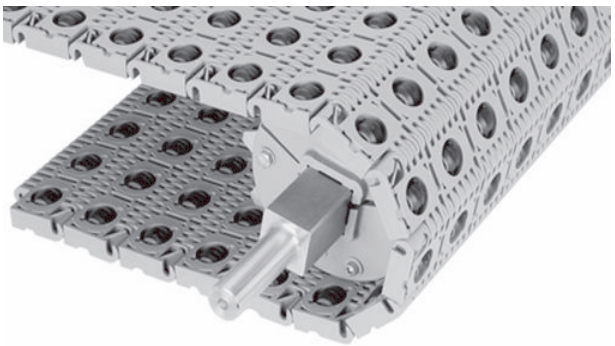


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,200	32,100	34 to 200	1 to 93	2.81	13.71

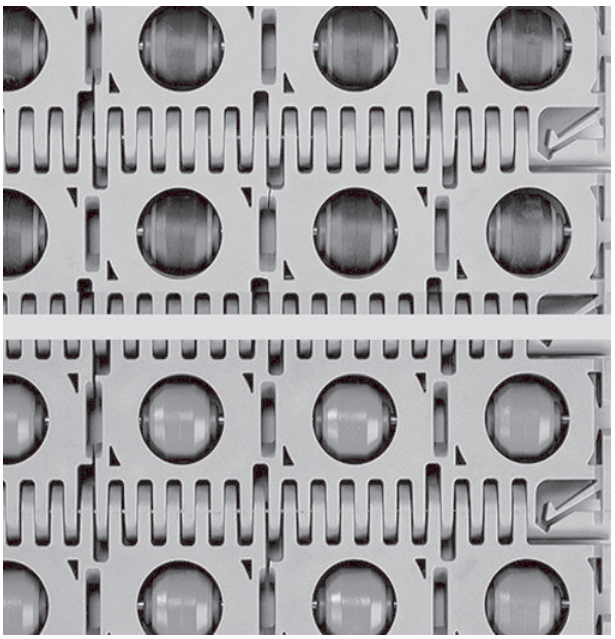
0-Degree Angled Roller™

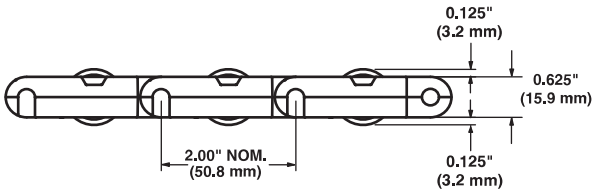
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses Activated Roller Belt™ (ARB ™) technology.
- Black or grey polyurethane rollers are available.
- Black polyurethane rollers are not recommended for product accumulations.
- All rollers have an acetal core.
- Axles are stainless steel.
- Rollers are inline with the direction of belt travel.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed to run on a flat, continuous carryway. A chevron carryway is not recommended.
- When belt rollers are in motion, product moves faster than the speed of the belt. When belt rollers are not in motion, product travels at belt speed.
- Product behavior varies depending on shape and weight of product, conveyor design, and belt speed.
- Intralox can help you reach a more accurate estimate of product behavior based on product and conveyor characteristics. Contact Intralox Customer Service for more information.
- Custom belts with any combination of 0-degree, 30-degree, 45-degree, or 60-degree angled rollers are available. Custom belts can also include rollers oriented in different directions. Contact Intralox Customer Service for more information.
- 2.0 in (50.8 mm) roller spacing.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket or all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in or 60-mm square bores.



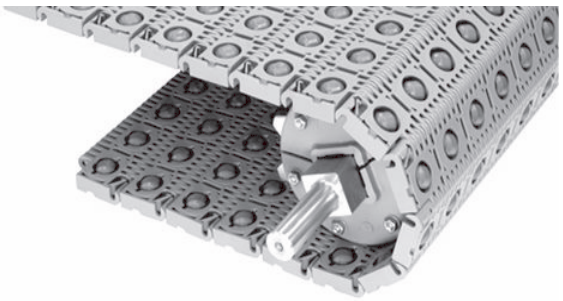


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene/black polyurethane	Nylon	1,600	23,400	34 to 200	1 to 93	2.65	12.94
Polypropylene/grey polyurethane	Nylon	1,600	23,400	34 to 120	1 to 49	2.73	13.33

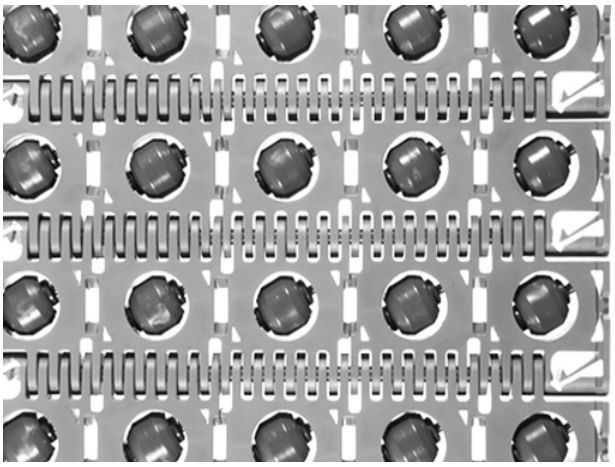
30-Degree Angled Roller™

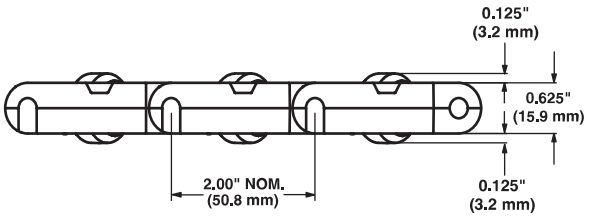
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses Activated Roller Belt (ARB) technology.
- Rollers are skewed 30 degrees from the direction of belt travel.
- Grey polyurethane rollers with an acetal core are available.
- Uses stainless steel axles.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Polyethylene belts require ultra-abrasion resistant polyurethane sprocket on the drive shaft. Any sprocket can be used on the idle shaft, except for sprockets with low back-tension teeth.
- When belt rollers are in motion, product moves faster than the speed of the belt. When belt rollers do not rotate, product travels at belt speed.
- Product behavior varies depending on shape and weight of product, conveyor design, and belt speed. Intralox can help you estimate product behavior based on product and conveyor characteristics. Contact Intralox Customer Service for more information.
- Centering configuration is possible using two belts with rollers oriented towards the center of the conveyor.
- Custom belts with any combination of 0-degree, 30-degree, 45-degree, or 60-degree angled rollers are available. Custom belts can also include rollers oriented in different directions. Contact Intralox Customer Service for more information.
- Designed to run on a flat, continuous carryway. A chevron carryway is not recommended.
- Belt can be supported using parallel wearstrips placed in between belt rollers. Contact Intralox Customer Service for more information.
- Alignment belts on a flat, continuous carryway require a side wearstrip. Install the belt to run flush along this wearstrip.
- 2 in (50.8 mm) roller spacing.
- Minimum belt width for polyethylene is 8 in (203 mm).
- Polyethylene belts between 8 in (203 mm) to 10 in (254 mm) wide must be derated to 450 lbf/ft. (6,570 N/m).
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in or 60 mm square bores.
- If any moisture is present, the low-temperature limit of the polyethylene belt is 34° F (1° C).



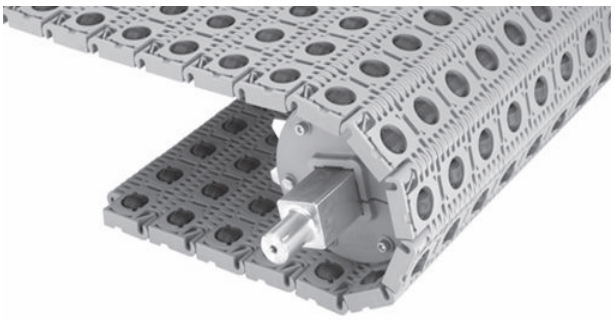


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene/grey polyurethane	Nylon	1,600	23,400	34 to 120	1 to 49	2.64	12.89
Polyethylene/grey polyurethane	Nylon	500	7,300	17 to 150	-8 to 65	2.93	14.31

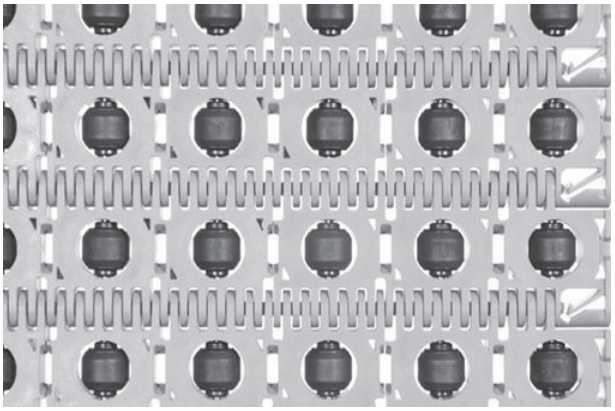
90-Degree Angled Roller™

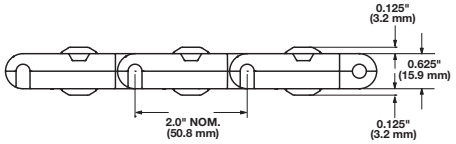
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Black polyurethane rollers with an acetal core are available.
- Black polyurethane rollers are not recommended for product accumulation conditions.
- Axles are stainless steel.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Do not allow black polyurethane rollers to contact flat, continuous carryways or chevron carryways.
- Belt can be supported using parallel wearstrips placed between belt rollers. Contact Intralox Customer Service for more information.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in and 60-mm square bores.
- Roller spacing: 2.0 in (50.8 mm).



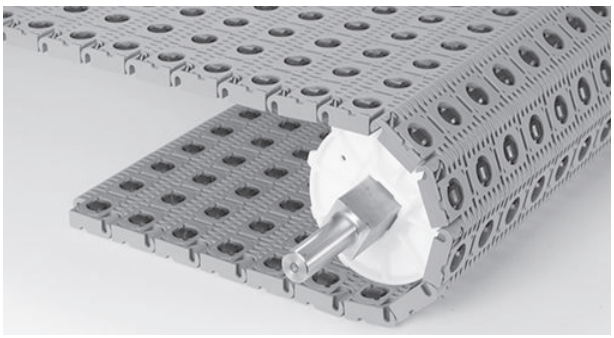


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene/black polyurethane	Nylon	1,600	23,400	34 to 200	1 to 93	2.65	12.94

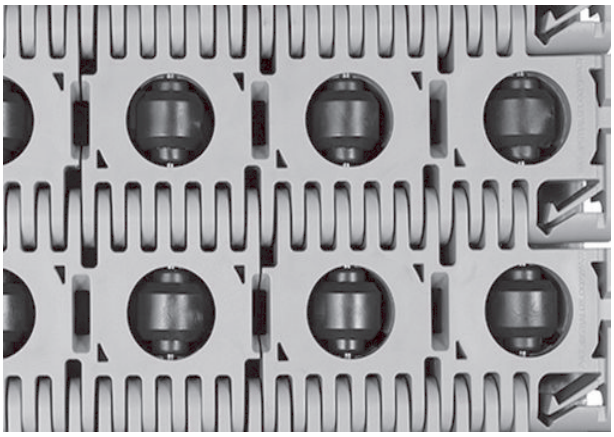
0.78-in Diameter 90-Degree Angled Roller™

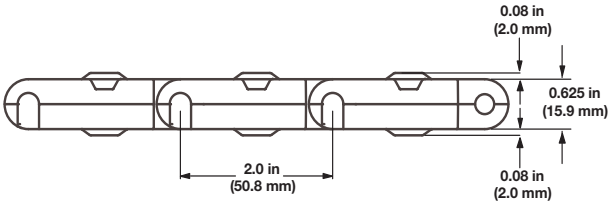
	in	mm
Pitch	2.0	50.8
Minimum Width	6	152.4
Width Increments	2.0	50.8
Opening Size	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Black acetal rollers are available.
- Axles are stainless steel.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in and (60 mm) square bores.
- Roller spacing: 2.0 in (50.8 mm).



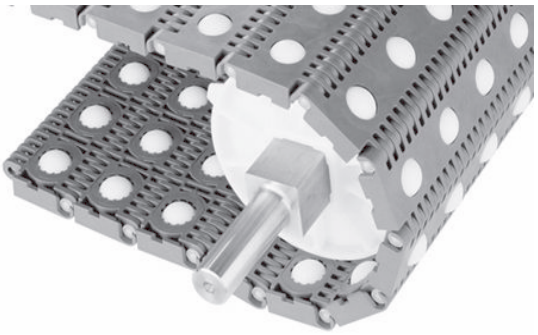


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene/black acetal	Nylon	1,600	23,400	34 to 200	1 to 93	2.65	12.94

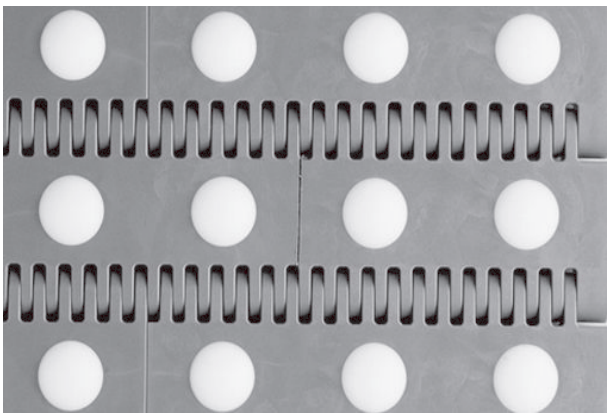
Ball Belt

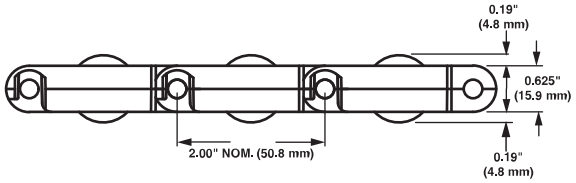
	in	mm
Pitch	2.00	50.8
Minimum Width	10	254
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Acetal balls protrude beyond top and bottom of belt. Module does not contact carryway.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Product movement is controlled by driving balls with a perpendicular secondary conveyor, underneath the main belt.
- Product moves faster than belt speed.
- Product speed varies, depending on shape and weight of product.
- A flat continuous carryway is required.
- Designed for applications that require product redirection, alignment, transfer, diverting, palletizing, orientation, accumulation, or justification.
- Install alignment configurations to run flush along the side wearstrip.
- Self-set retaining rings for locking sprockets are not recommended.
- Ball diameter: 1.0 in (25.4 mm).
- Distance between balls: 2 in (50.8 mm).
- Standard ball indent: 1.1 in (27.9 mm).
- Rod centerline to top or bottom of module: 0.313 in (7.9 mm).
- Rod centerline to top or bottom of ball: 0.50 in (12.7 mm).





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	2,400	35,000	34 to 200	1 to 93	3.71	18.11
Polypropylene	Polypropylene	1,600	23,400	34 to 200	1 to 93	2.78	13.57

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1,067	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	8	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
120	3,048	21	15	11
144	3,658	25	17	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing[d]	Maximum 12 in (305 mm) centerline spacing.

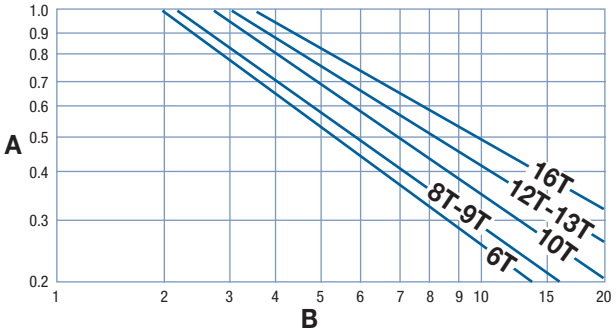
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Flat Top, Flush Grid, and Raised Rib belts are available in 0.33 in (8.4 mm) increments beginning with a minimum width of 2 in (51 mm). The increment for Open Hinge belts is 0.25 in (6 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

[d] Ball Belt and some Angled Roller belts require a flat continuous carryway.

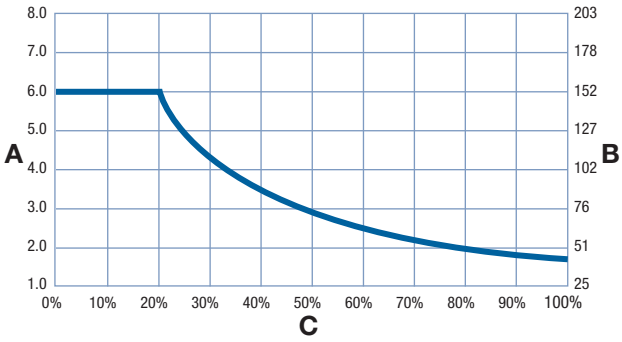
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized

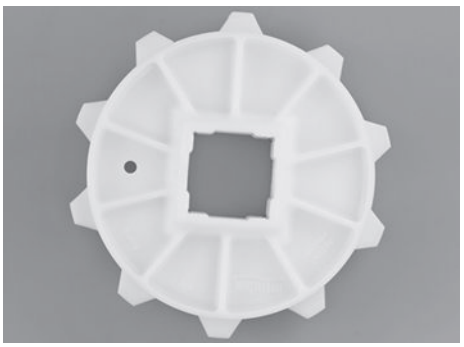


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprocket

This sprocket is compatible with all belts except Flush Grid acetal.

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
6 (13.40%)	4.0	102	3.6	91	1.5	38		1.5		40
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5, 2.5		40, 60
10 (4.89%)	6.4	163	6.3	160	1.5	38	2.0	1.5, 2.5	82	40, 60, 70
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60
16 (1.92%)	10.1	257	10.2	259	1.5	38		1.5, 2.5, 3.5		40, 60, 90



[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967(R1989) and metric key sizes are based on DIN standard 6885.

Split Low Back Tension Ultra Abrasion Resistant Polyurethane Sprocket[a]

Available for all belts except Flush Grid acetal, Open Hinge, and roller belts

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5		40	
12 (3.41%)	7.8	198	7.7	196	1.5	38		2.5			
16 (1.92%)	10.1	257	10.2	259	1.5	38		2.5			

[a] When using these sprockets, the maximum belt strength for all styles and materials is 1,000 lbf/ft (14,600 N/m). The sprocket temperature range is -40°F to 160°F (-40°C to 71°C).

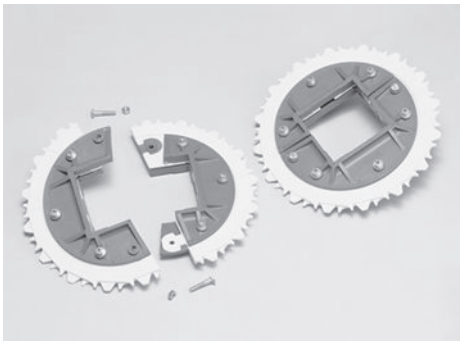
Split Ultra Abrasion Resistant Polyurethane Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5		40	

[a] When using these sprockets, the maximum belt strength for all styles and materials is 1,000 lbf/ft (14,600 N/m), and the temperature range is -40°F to 160°F (-40°C 71°C).

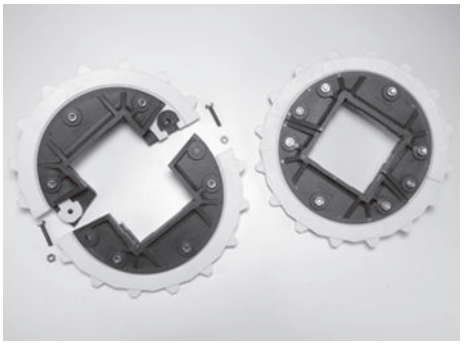
Molded Tooth Plate Split Low Back Tension Polyurethane Composite Sprockets[a]

Available for all belts except Open Hinge and Roller belts.

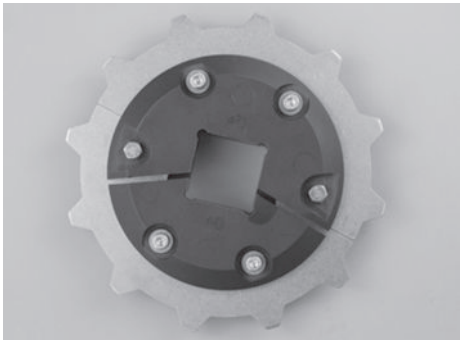
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.70	43		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	10.1	257	10.2	259	1.5	38	3.5	1.5, 2.5, 3.5		90	

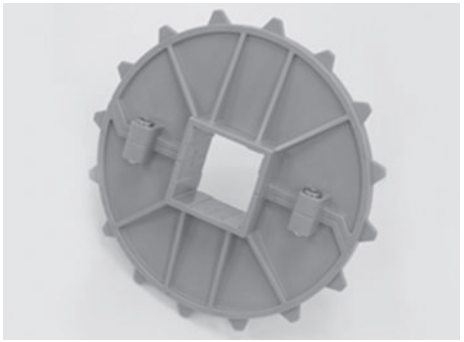
[a] Recommended for use on drive shafts only. There is very little belt tension when a belt engages the idle sprockets. In some applications, the belt does not have enough tension to engage the added low back tension teeth, causing the belt to disengage on the idle sprockets.

Molded Tooth Plate Split Polyurethane Composite Sprockets

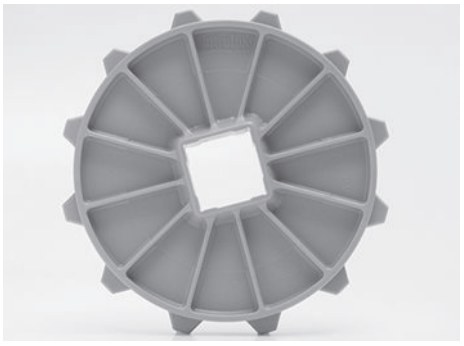
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.7	43		1.5		40	
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5		40	
16 (1.92%)	10.1	257	10.2	259	1.5	38	4.0	3.5		90	

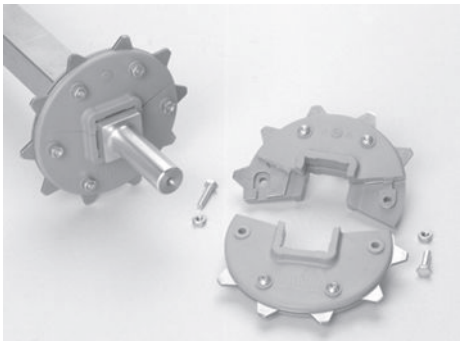
Split Metal with Polyurethane (FDA) Joining Plates Reduced Clearance Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5		40	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60	

HR Nylon Split Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	10.1	257	10.2	196	2.0	51		2.5		60	

[a] For wet applications, contact Intralox Customer Service.

HR Nylon Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5			
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	10.1	257	10.2	259	1.5	38		1.5, 2.5, 3.5		60, 90	

Split Metal Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
6 (13.40%)	4.0	102	3.6	91	1.5	38		1.5		40	
8 (7.61%)	5.2	132	5.0	127	1.5	38	1, 1-3/16, 1-1/4, 1-7/16	1.5	20, 30, 40	40, 60	
10 (4.89%)	6.4	163	6.3	160	1.5	38	1, 1-3/16, 1-1/4, 1-3/8, 1-7/16, 1-1/2, 1-15/16	1.5, 2.5	20, 40	40, 60	
12 (3.41%)	7.8	198	7.7	196	1.5	38	1-7/16, 1-15/16	1.5, 2.5	40	40, 60	
16 (1.92%)	10.1	257	10.2	259	1.5	38	1-7/16, 1-15/16	1.5, 2.5, 3.5		40, 60, 90	

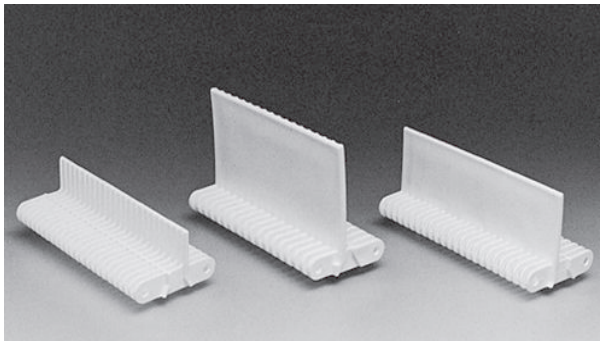
[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967(R1989) and metric key sizes are based on DIN standard 6885.

Split Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.4	163	1	1.5, 2.5			

Flush Grid Base Flights (Streamline/No-Cling)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene
2	51	
3	76	

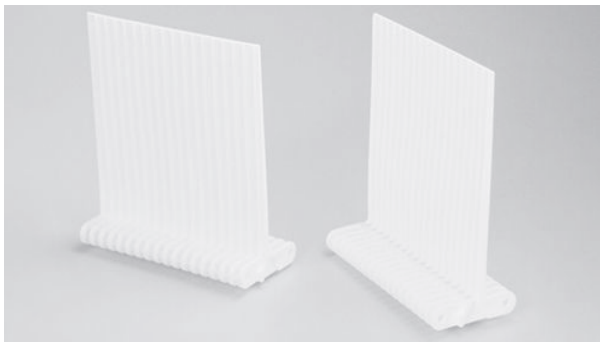
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- The Streamline side of the flight is smooth and the No-Cling side is vertically ribbed.
- An extension can be welded at a 45-degree angle for a bent flight.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.8 in (20 mm) and the minimum indent for a Slidelox edge (without sideguards) is 1.4 in (36 mm).



Flush Grid Base Flights (Double No-Cling)

Available Flight Height		Available Materials
in	mm	
6	152	Polypropylene, polyethylene

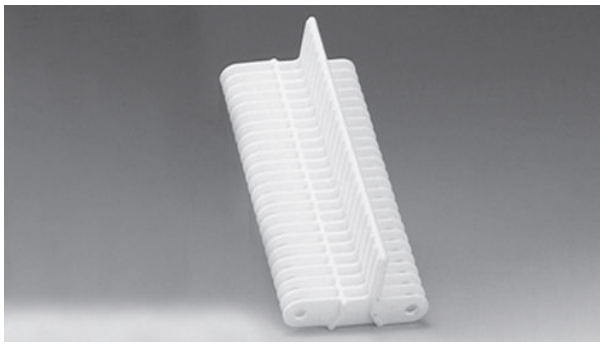
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.8 in (20 mm).
- Minimum indent for a Slidelox edge without sideguards: 1.4 in (36 mm).
- 45-degree bent flights are available in polypropylene with a 3 in (76 mm) tall base and with a 1 in (25 mm) or 2 in (51 mm) extension.



Open Hinge Base Flights (Streamline/No-Cling)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene
2	51	
3	76	

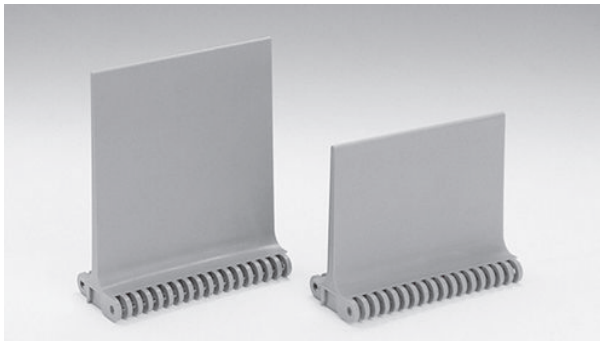
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Streamline/No-Cling flights are smooth on one side and vertically ribbed on one side.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Flights can be extended to 6 in (152 mm) high (welded extension). The extension can also be welded at a 45-degree angle for a bent flight.
- Minimum indent without sideguards: 0.6 in (15 mm).



Flat Top Base Flights (Streamline)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal
6	152	

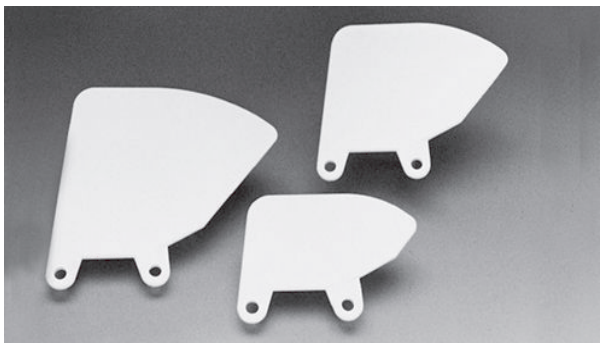
- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Flat Top base flights cannot be used with Flush Grid belts.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.8 in (20 mm) Minimum indent for a Slidelox edge without sideguards: 1.4 in (36 mm).



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene
3	76	
4	102	
6	152	

- Standard overlap design ensures product containment.
- Fastens to belt with hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 8-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 10-, 12- and 16-tooth sprockets.
- Standard gap between sideguards and flight edge: 0.4 in (10 mm).
- Minimum indent: 0.8 in (20 mm).



Hold Down Tabs

- Available on Non Skid and Flat Top belts.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between the horizontal sections and angled sections. This approach reduces initial system cost as well as ongoing maintenance cost and effort.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- Design the conveyor with a carryway radius at the transition between horizontal sections and angled sections. This radius must be at least 48 in (1.22 m) for belts that are loaded near the belt strength rating. This radius is one of the most important factors to consider when designing highly loaded conveyors that utilize hold down tabs.
- Tabs can be spaced along the length of the belt at either4 in (101.6 mm) or 6 in (152.4 mm). Due to the potential for mistracking, avoid tab spacings greater than 6 in (152.4 mm).
- Strength rating for each hold down tab: 100 lbf (445 N) of force perpendicular to the hold down surface.



Insert Nuts

Available Base Belt Style; Material	Sizes
Flat Top; acetal, polypropylene	5/16 in–18 in (8 mm–1.25 mm)

Belt Material	Maximum Fixture Weight		Fastener Torque Specification	
	lb/nut[a]	kg/nut[a]	in-lbf	N-m
Acetal	200	91	120	13.5
Polypropylene	175	79	65	7.3

- Insert nuts allow easy attachment of fixtures to the belt.
- Ensure attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- For attachment bases that extend across multiple rows, ensure reduced backbend is considered during design.
- Do not place sprockets in-line with insert nuts.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for application.
- See S4500 Flat Top with Insert Nuts as an alternate option.
- Minimal indent from the edge of the belt: 2 in (50 mm).
- Minimal distance between nuts across the width of the belt: 1.33 in (34 mm).
- Spacing along the length of the belt: 2 in (50 mm) increments.

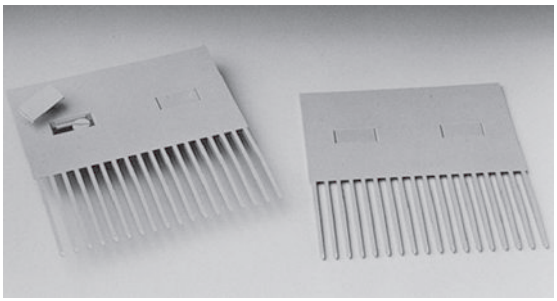


[a] Fixture weight only. Product weight need not be included.

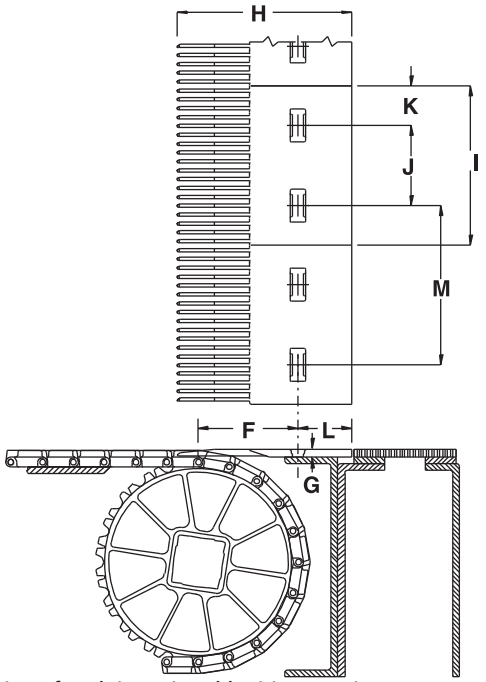
Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Polypropylene

- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
- The finger transfer plates for Series 400 are the same for Series 1200.



Dimensional Requirements for S400 Finger Transfer Plate Installation			
		in	mm
F		3.50	89
G		0.31	8
H		7.25	184
I		5.91	150
J		3.00	76
K		1.45	37
L		2.00	51
M	PP	5.952	151.2
	PE	5.933	150.7

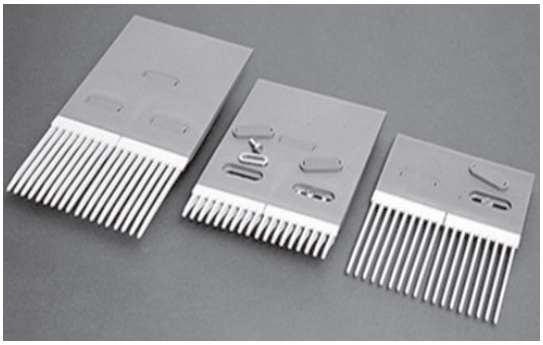


M spacing between finger transfer plates, at ambient temperature

Figure 10: Finger transfer plate and conveyor assembly

Two-Material Finger Transfer Plates

Available Widths		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic fingers, acetal backplate



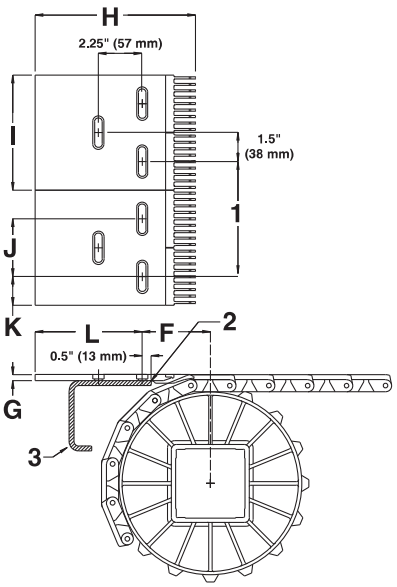
Available Configurations

Standard	Standard Extended Back	Glass-Handling
Long fingers with a short backplate	Long fingers with an extended backplate	Short fingers with extended backplate
		short fingers with short backplate[a]
		mid-length fingers with a short backplate
		mid-length fingers with extended backplate

- Provides high-strength fingers combined with a low-friction backplate.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing smooth, continuous product flow as the belt engages the sprockets.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates (FTPs).
- Mounting hardware for the glass-handling two-material FTPs is sold separately. Mounting hardware consists of stainless steel oval washers and bolts, which give more secure fastening for tough, glass applications.
- For applications that require better chemical resistance, Intrlox offers a single-material polypropylene standard FTP. Mounting hardware for this finger transfer plate includes plastic shoulder bolts and snap-cap bolt covers.
- Long fingers provide good support for unstable products like PET containers and cans. Short fingers are sturdy enough for harsh, broken-glass applications. These fingers are designed to resist breaking, but if confronted with deeply embedded glass, the individual fingers yield and break off, preventing belt or frame damage.
- Short backplate has two attachment slots and the extended backplate has three attachment slots.
- S400 and S1200 use the same FTPs.
- For best product transfer with the glass-handling finger transfer plates, use 10.1 in (257 mm) PD, 16-tooth sprockets.

[a] Contact Intralox Customer Service for lead times.

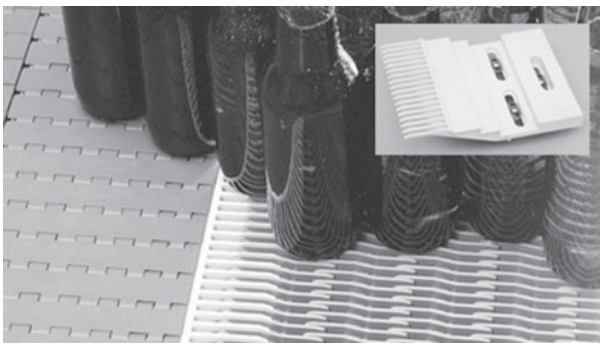
Dimensional Requirements for S400 Two-Material Finger Transfer Plate Installation									
		Standard Long Fingers				Glass-Handling Short Fingers		Glass-Handling Mid-Length Fingers	
		Short Back		Extended Back		Extended Back			
		in	mm	in	mm	in	mm	in	mm
F		3.50	89	3.50	89	3.50	89	3.50	89
G		0.31	8	0.31	8	0.31	8	0.31	8
H		7.2	183	10.75	273	8.26	210	9.04	230
I		5.91	150	5.91	150	5.91	150	5.91	150
J		3.00	76	3.00	76	3.00	76	3.00	76
K		1.45	37	1.45	37	1.45	37	1.45	37
L		2.00	51	5.50	140	5.50	140	5.50	140
1	PP	5.952	151.2	5.952	151.2	5.952	151.2	5.952	151.2
	PE	5.933	150.7	5.933	150.7	5.933	150.7	5.933	150.7



1 spacing between finger transfer plates, at ambient temperature
2 0.5 in (13 mm) radius on leading edge of frame member
3 frame member
Figure 11: Finger transfer plate and conveyor assembly

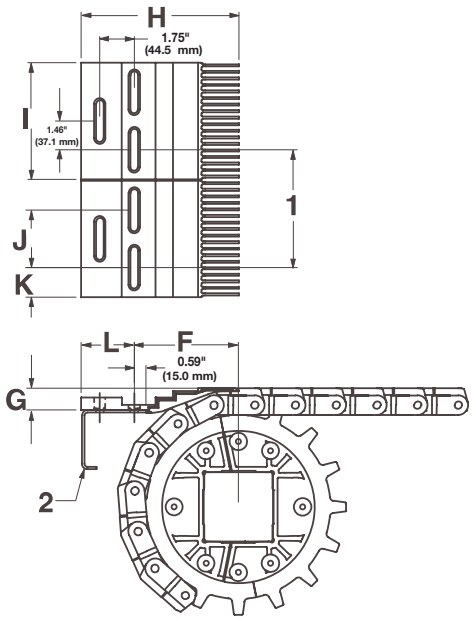
Self-Clearing Finger Transfer Plates[a]			
Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic

- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with the belt expansion and contraction.
- Stainless steel hardware is sold separately.



[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for S400 Self-Clearing Finger Transfer Plate Installation[a]			
		in	mm
F		5.25	133.4
G		1.15	29.2
H		8.05	204.5
I		5.89	149.6
J		2.92	74.2
K		1.51	38.4
L		2.71	68.8
1	PP	5.952	151.2
	PE	5.933	150.7

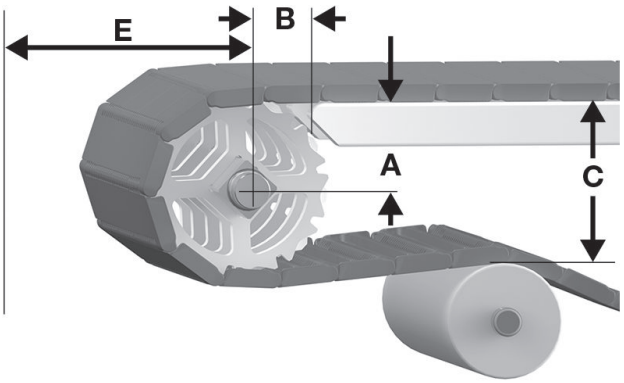


1 spacing between finger transfer plates, at ambient temperature
2 frame member
Figure 12: Finger transfer plate and conveyor assembly

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 13: A, B, C, and E drive dimensions

S400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid, Open Hinge										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.38	60
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	2.99	76
5.8	147	9	2.44-2.61	62-66	2.70	69	5.95	151	3.49	89
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.61	92
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.24	108
8.4	213	13[1]	3.75-3.87	95-98	3.22	82	8.46	215	4.74	120
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.50	140
Raised Rib										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.75	70
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	3.24	82
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.99	101
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.49	114
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.88	149
Non Skid										
4.0	102	6	1.42-1.69	36-43	1.60	41	4.09	104	2.46	62
5.2	132	8	2.10-2.30	53-58	1.98	50	5.31	135	3.07	78
5.8	147	9	2.43-2.61	62-66	2.31	59	5.93	151	3.38	86
6.4	163	10	2.77-2.92	70-74	2.26	57	6.56	167	3.70	94
7.8	198	12	3.42-3.55	87-90	2.60	66	7.81	198	4.32	110
8.4	213	13	3.74-3.87	95-98	2.84	72	8.44	214	4.64	118
10.1	257	16	4.71-4.81	120-122	2.97	75	10.34	263	5.59	142

S400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Roller Top, Transverse Roller Top										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.56	65
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	3.17	81
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.79	96
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.42	112
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.68	144
0.85-in Diameter Transverse Roller Top										
4.0	102	6	1.27-1.54	32-39	1.72	44	3.96	101	2.48	63
5.2	132	8	1.95-2.15	50-55	2.13	54	5.18	132	3.09	78
6.4	163	10	2.62-2.77	67-70	2.43	62	6.42	163	3.71	94
7.8	198	12	3.27-3.40	83-86	2.78	71	7.68	195	4.34	110
10.1	257	16	4.56-4.66	116-118	3.20	81	10.20	259	5.60	142
Angled Roller (0-, 30-, 45-, 60-, and 90-degree)[b]										
4.0	102	6	1.29-1.56	33-40	1.70	43	4.00	102	2.50	64
5.2	132	8	1.98-2.18	50-55	2.11	53	5.23	133	3.11	79
6.4	163	10	2.64-2.80	67-71	2.40	61	6.47	164	3.74	95
7.8	198	12	3.29-3.43	84-87	2.75	70	7.73	196	4.36	111
10.1	257	16	4.59-4.69	117-119	3.16	80	10.25	260	5.63	143
Ball Belt[b]										
4.0	102	6	1.23-1.50	31-38	1.75	44	4.00	102	2.56	65
5.2	132	8	1.91-2.11	49-54	2.16	55	5.23	133	3.18	81
6.4	163	10	2.58-2.74	65-69	2.47	63	6.47	164	3.80	96
7.8	198	12	3.23-3.36	82-85	2.82	72	7.73	196	4.43	112
10.1	257	16	4.53-4.63	115-117	3.25	82	10.25	260	5.69	144

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.
[b] To establish dimensions, use the top of the roller as the top of the belt and the bottom of the roller as the bottom of the belt.

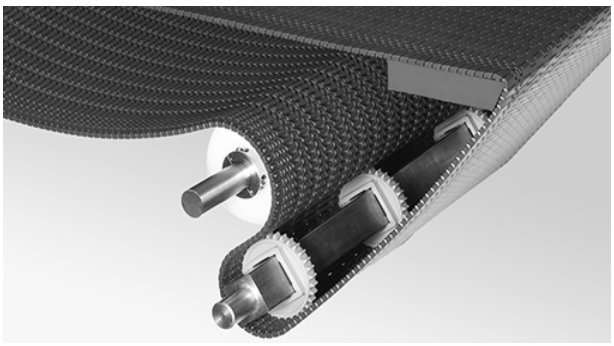
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S400 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
4.0	102	6	0.268	6.8
5.2	132	8	0.200	5.1
5.8	147	9	0.178	4.5
6.4	163	10	0.160	4.1
7.8	198	12	0.130	3.3
8.4	213	13	0.121	3.1
10.1	257	16	0.100	2.5

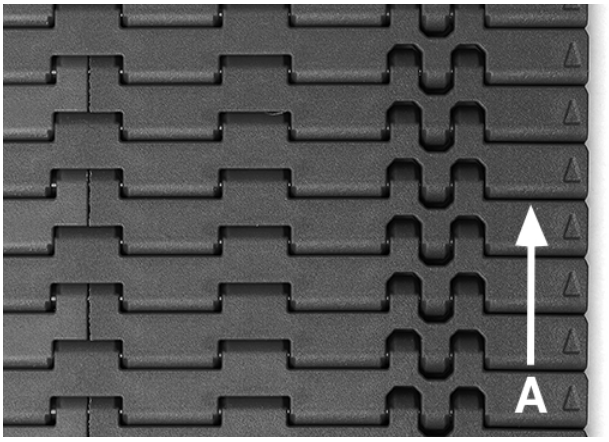
Flat Top

	in	mm
Pitch	0.315	8.0
Minimum Width	4	101.6
Maximum Width	62	1575
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

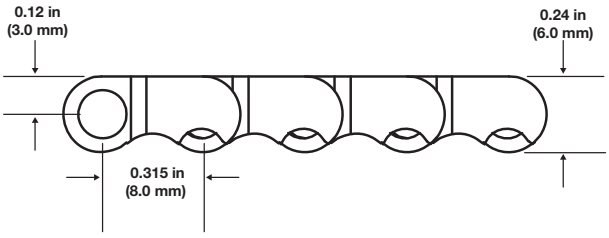


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for 0.236 in (6 mm) diameter nosebars.



A preferred run direction

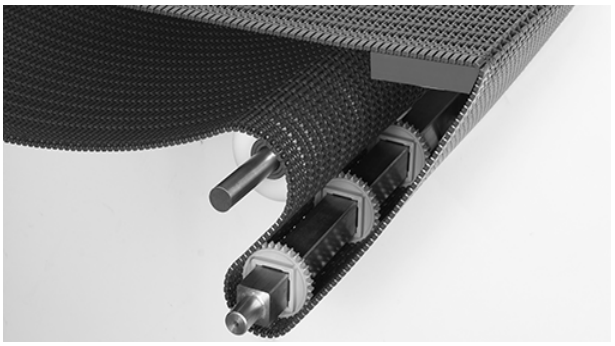


Belt Data

Belt Material	Default Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	375	5,470	-50 to 200	-46 to 93	1.08	5.27
Acetal	LMAR	325	4,740	-50 to 200	-46 to 93	0.91	4.4426
LMAR	LMAR	275	4,010	-50 to 290	-46 to 143	0.87	4.2473
PK	PK	300	4,380	-40 to 176	-40 to 80	0.85	4.1497
PK	Acetal	300	4,380	-40 to 176	-40 to 80	0.88	4.2962
Detectable MX	Detectable MX	300	4,380	-50 to 200	-46 to 93	1.24	6.0542

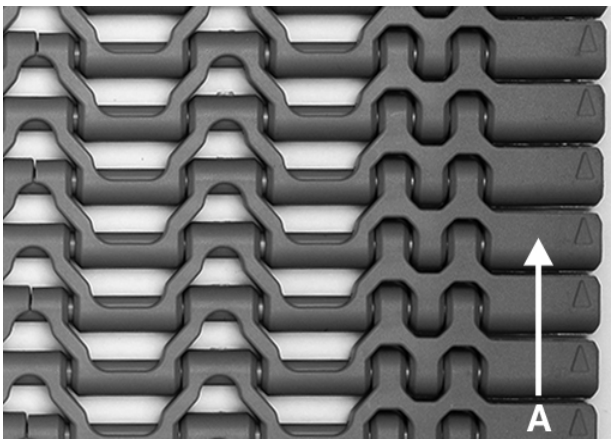
Flush Grid

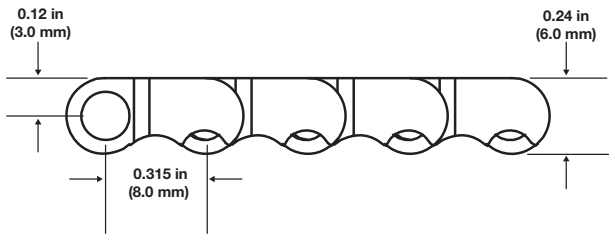
	in	mm
Pitch	0.315	8.0
Minimum Width	4.0	101.6
Maximum Width	62	1575
Width Increments	1.0	25.4
Opening Size (approximate)	0.4 x 0.14	10.2 x 3.5
Open Area	32%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, upper surface with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for orientation-sensitive transfers.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for 0.236 in (6 mm) diameter nosebars.





Belt Data

Belt Material	Default Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	300	4,380	-50 to 200	-46 to 93	0.87	4.25
Acetal	LMAR	250	3,650	-50 to 200	-46 to 93	0.84	4.10
LMAR	LMAR	200	2,920	-50 to 290	-46 to 143	0.72	3.52
PK	PK	200	2,920	-40 to 176	-40 to 80	0.71	3.4662
PK	Acetal	275	4,010	-40 to 176	-40 to 80	0.74	3.6127

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
4	102	2	2	2
6	152	2	2	2
8	203	3	3	3
12	305	3	3	3
18	457	4	4	4
24	610	5	4	4
30	762	6	5	5
36	914	7	6	6
42	1,067	8	7	7
48	1,219	10	8	8
54	1,372	11	9	9
60	1,524	12	10	10
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c, d]			Maximum 6 in (152 mm) centerline spacing	Maximum 6 in (152 mm) centerline spacing

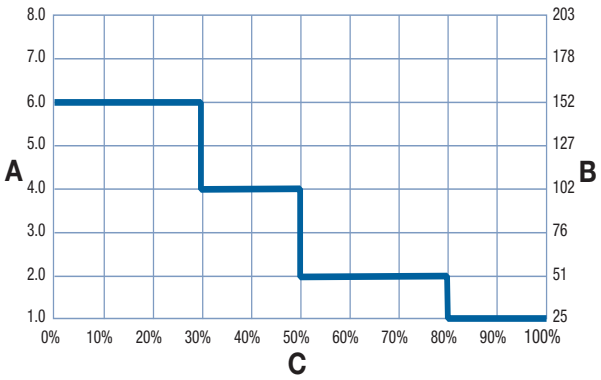
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with a minimum width of 4 in (101.6 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

[d] For drive shafts, use an odd number of sprockets at maximum of 4.0 in (102 mm) centerline spacing.

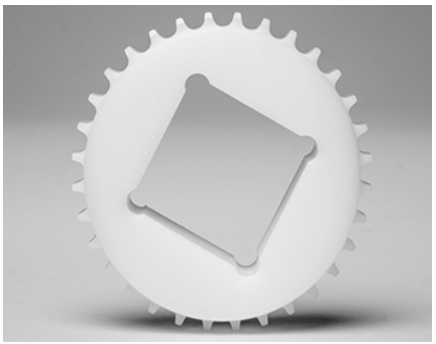
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

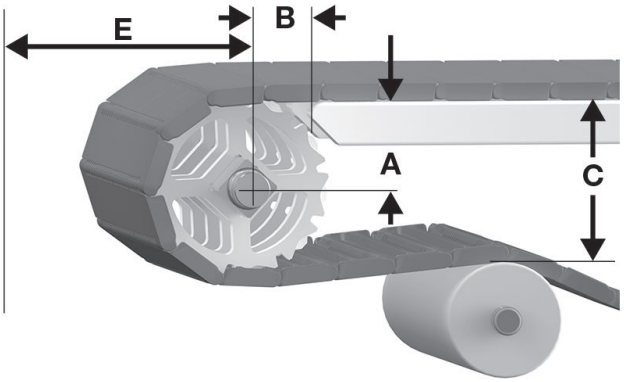
SERIES 560

Molded Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
24 (0.86%)	2.4	61	2.5	64	1	25	1	1	25	25	
32 (0.48%)	3.2	81	3.3	84	1	25		1.5		40	

Machined Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
18 (1.52%)	1.8	46	1.9	48	1	25	1	0.75	25	20	
36 (0.38%)	3.6	91	3.7	94	1	25		1.5		40	

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components
Figure 14: A, B, C, and E drive dimensions

S560 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid										
1.8	46	18	0.78	20	1.15	29	1.81	46	1.09	28
2.4	61	24	1.08	27	1.35	34	2.41	61	1.39	35
3.2	81	32	1.48	38	1.57	40	3.21	82	1.79	45
3.6	91	36	1.68	43	1.67	42	3.61	92	1.99	51

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

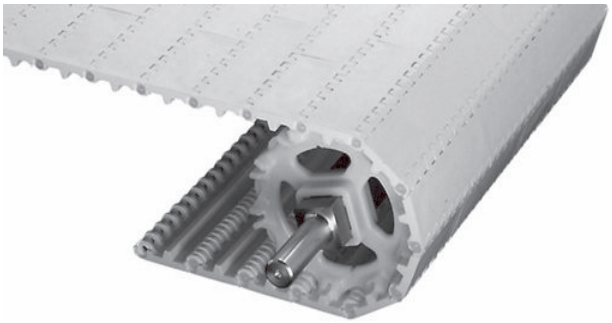
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S560 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
1.8	46	18	0.014	0.4
2.4	61	24	0.010	0.3
3.2	81	32	0.008	0.2
3.6	91	36	0.007	0.2

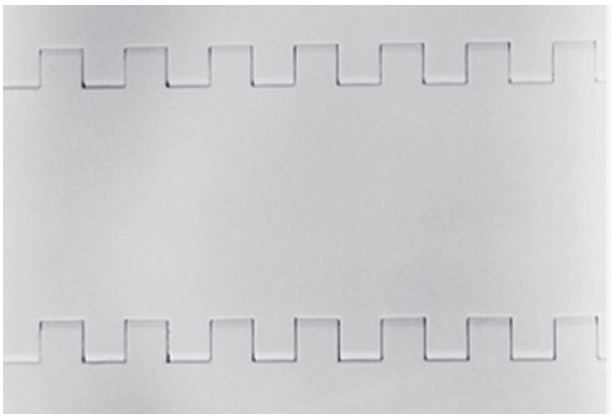
Flat Top

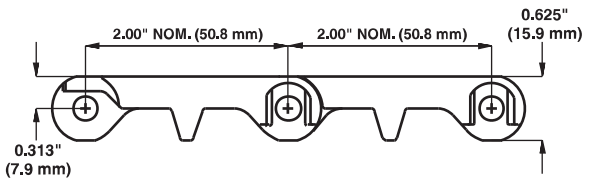
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough, meat-industry applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights and sideguards are available.



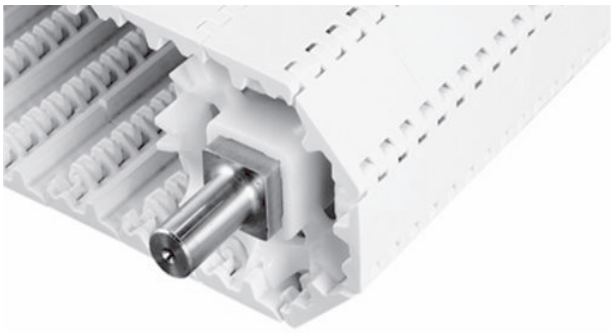


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.77	8.66
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.87	9.13
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.75	13.43
Nylon	Polyethylene	1,200	17,500	-50 to 150	-46 to 66	2.32	11.33
Detectable polypropylene A22	Polyethylene	650	9,490	34 to 150	1 to 66	2.21	10.79

Open Hinge Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, so there are no pockets or sharp corners to catch and hold debris.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Compatible with S800 Flat Top. Can be spliced directly into S800 Flat Top, using the same sprockets and accessories.
- Streamlined flights are available. Standard height is 6 in (152.4 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.

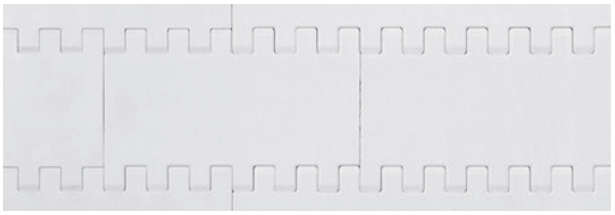


Figure 15: Top surface

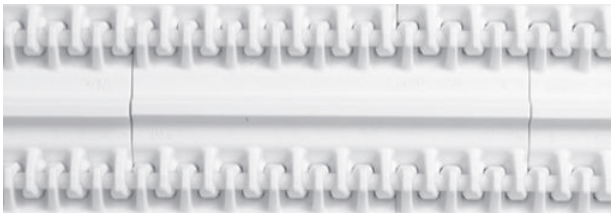
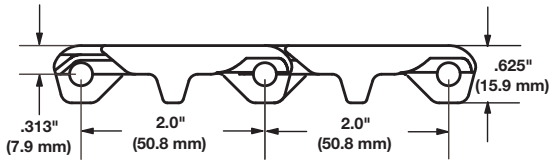


Figure 16: Bottom surface

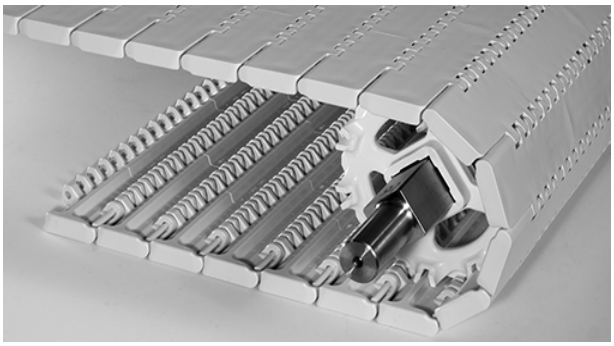


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	900	13,100	34 to 220	1 to 104	1.63	7.96
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.52	12.3
PK	PK	900	13,100	-40 to 176	-40 to 80	2.26	12.01
X-ray detectable acetal	X-ray detectable acetal	900	13,100	-50 to 200	-46 to 93	3.06	11.03

Open Hinge Flat Top with Heavy-Duty Edge

	in	mm
Pitch	2.00	50.8
Minimum Width	10	254.0
Width Increments	0.66	16.8
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough, meat-industry applications.
- Closed flush edge provides belt robustness and no catchpoints.
- Fully sculpted and radiused corners, with no pockets or sharp corners that can catch and hold debris.
- Like S1600 and S1800, the drive bar on the underside of this belt style channels water and debris to the outside of the belt for easier, faster cleanup. The drive bar sweeps into the closed edge to further aid in washing away debris. Drive bar effectiveness is proven both in-house and in field tests.
- Available with Clean Release variation. Clean Release allows tool-free belt removal and installation and eliminates foreign material contamination caused by belt or rod damage when opening or closing belts.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Also available in 6 in (152 mm) and 8 in (203 mm) mold to width.
- Streamlined flights are available.
- For flight options, contact Intralox Customer Service.

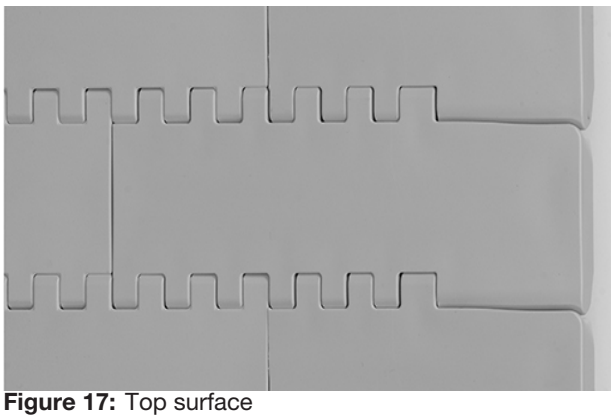


Figure 17: Top surface

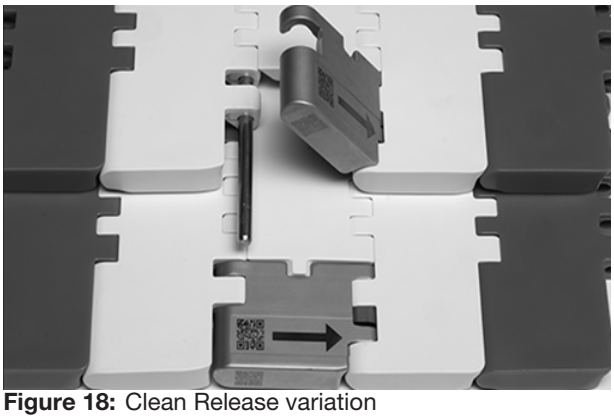
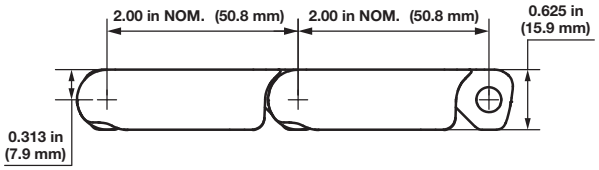


Figure 18: Clean Release variation



Belt Data

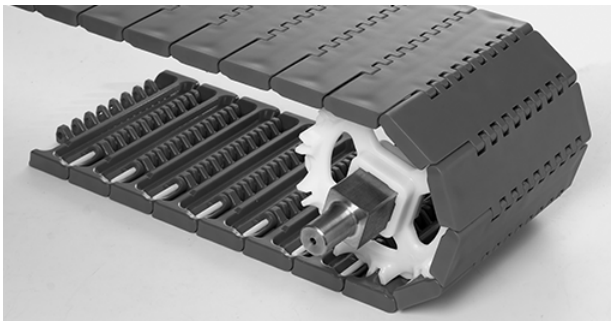
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
PK	PK	900	13,100	-40 to 176	-40 to 80	2.46	12.01
X-ray detectable PK	PK	900	13,100	-40 to 176	-40 to 80	2.93	14.31

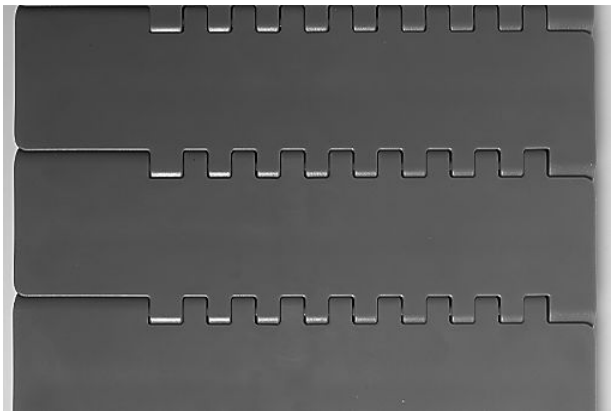
Open Hinge Flat Top Mold to Width with Heavy-Duty Edge

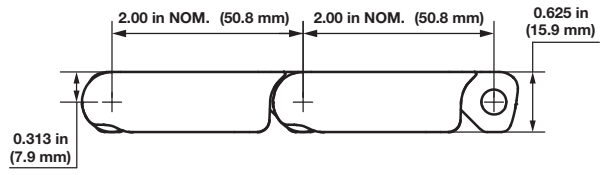
	in	mm
Pitch	2.00	50.8
Molded Widths	6	152.4
	8	203.0
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough, meat-industry applications.
- Closed flush edge design provides a robust belt and eliminates catchpoints.
- Fully sculpted and radiused corners, with no pockets or sharp corners that can catch and hold debris.
- Like S1600 and S1800, the drive bar on the underside of this belt style channels water and debris to the outside of the belt for easier, faster cleanup. The drive bar sweeps into the closed edge to further aid in washing away debris. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For flight options, contact Intralox Customer Service.





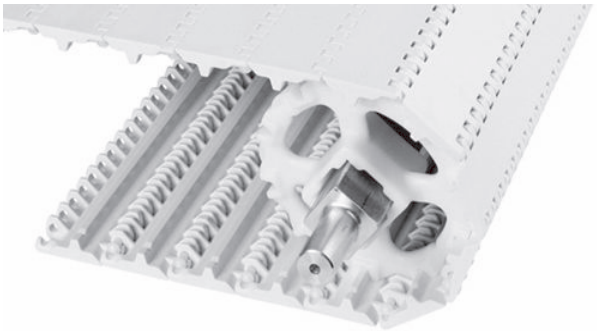


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft	kg/m
PK	PK	900	13,100	-40 to 176	-40 to 80	2.18	10.64

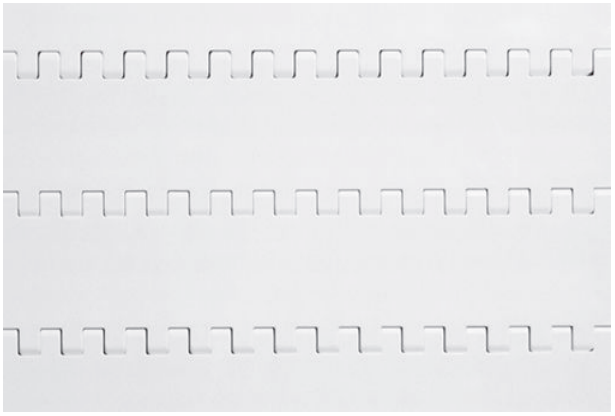
SeamFree™ Open Hinge Flat Top

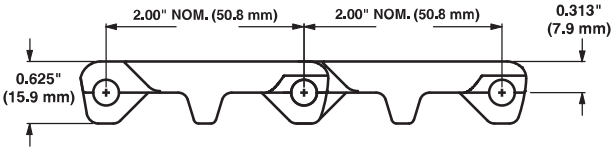
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Fully sculpted and radiused corners, so there are no pockets or sharp corners to catch and hold debris.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Compatible with S800 Flat Top. Can be spliced directly into S800 Flat Top, using the same sprockets and accessories.
- Belts over 36 in (914 mm) are built with more than one module per row, but seams are minimized.
- Blue polyethylene belts over 18 in (457 mm) are built with more than one module per row.
- Streamlined flights are available. Standard height is 6 in (152.4 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



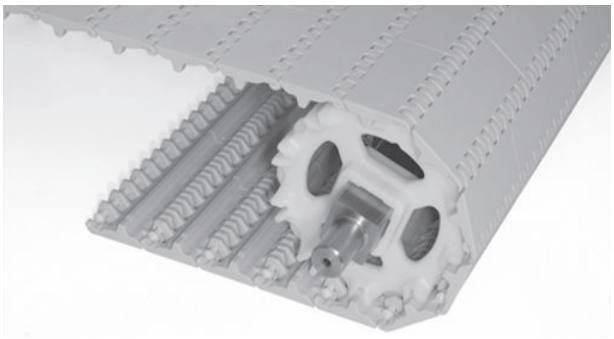


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.52	12.3

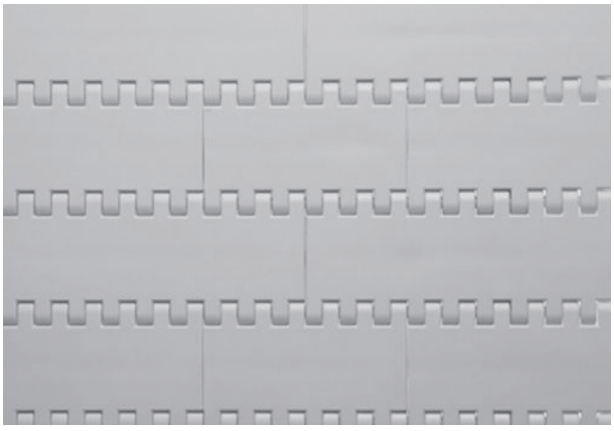
Tough Flat Top

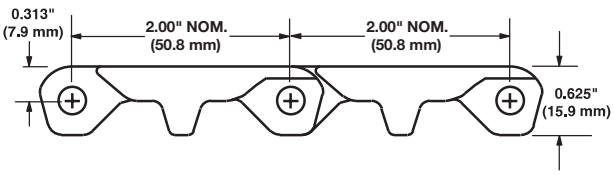
	in	mm
Pitch	2.00	51.0
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- White and grey material is fully Food and Drug Administration (FDA) and EU MC compliant.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Withstands extreme impact in food processing applications.
- Compatible with S800 Flat Top and S800 Open Hinge. Can be spliced directly into either style, using the same sprockets and accessories.
- Easy retrofit from S1800 without extensive conveyor frame changes for most meat industry applications since the A, B, C, and E dimensions are within 0.25 in (6 mm) of S1800.
- A molded-in indent 1.3 in (33 mm) from the edge is available.
- Streamlined Tough flights are available. Standard height is 4 in or (101.6 mm) or 6 in (152.4 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



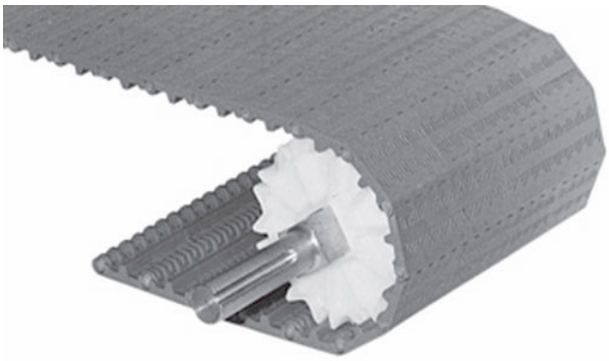


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Hi-Impact	PK	500	7,300	0 to 120	-18 to 49	2.26	11.03
Hi-Impact	Polyethylene	450	6,570	0 to 120	-18 to 49	2.26	11.03

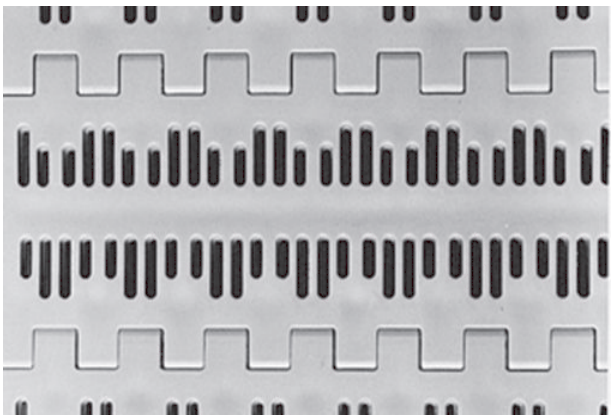
Perforated Flat Top

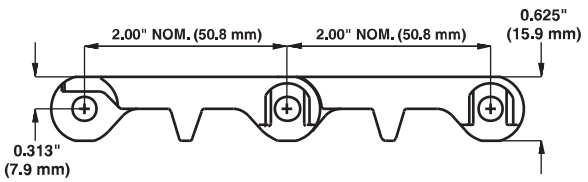
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Minimum Opening Size (approximate)	0.29 × 0.08	7.4 × 1.9
Maximum Opening Size (approximate)	0.44 × 0.08	11.1 × 1.9
Open Area	18%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Perforated version of S800 Flat Top.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights and sideguards are available.



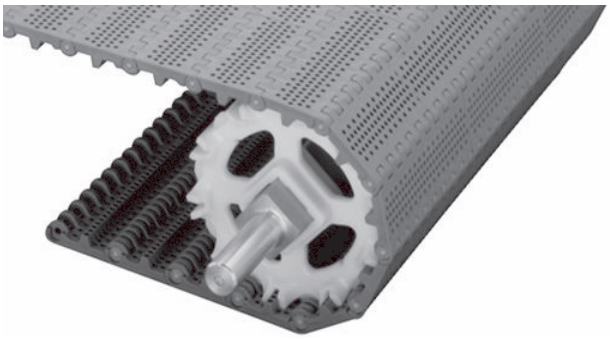


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.54	7.25
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.59	7.76
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.28	11.15

Perforated Flat Top Round Hole

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	See photos on right.	
Open Area	See photos on right.	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Round hole version of S800 Perforated Flat Top.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Stainless steel split sprockets are not recommended.
- For abrasive applications, use with Series 800 polyurethane sprockets.

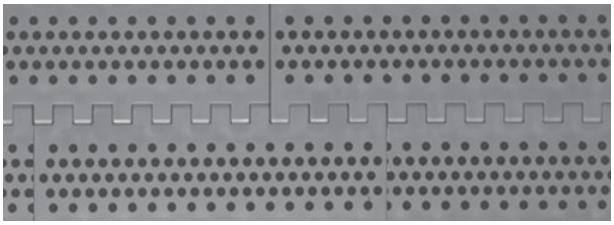


Figure 19: 5/32 in (4 mm) - 20% open area

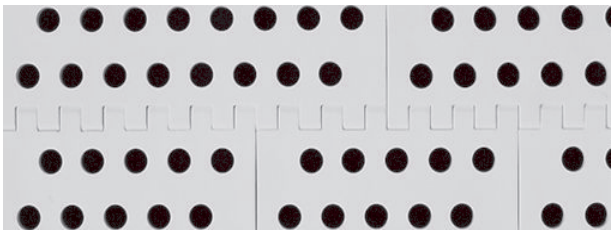
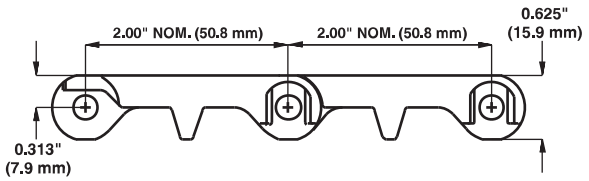


Figure 20: 11/32 in (8.7 mm) - 14% open area



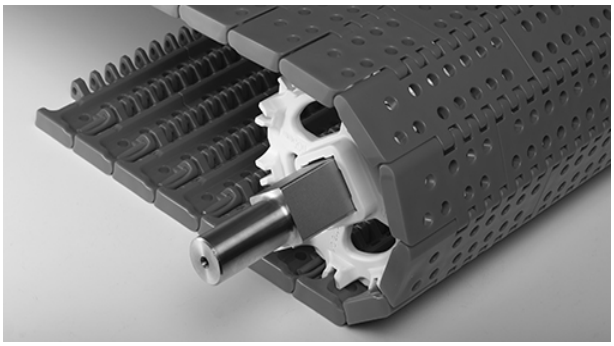
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.54	7.52
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.59	7.76
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.28	11.15
ChemBlox[a]	ChemBlox	900	13,100	0 to 150	-18 to 66	2.87	14.01
PK[b]	PK	900	13,100	-40 to 176	-40 to 80	2.05	10.01

[a] Only available in 11/32 in (8.73 mm).

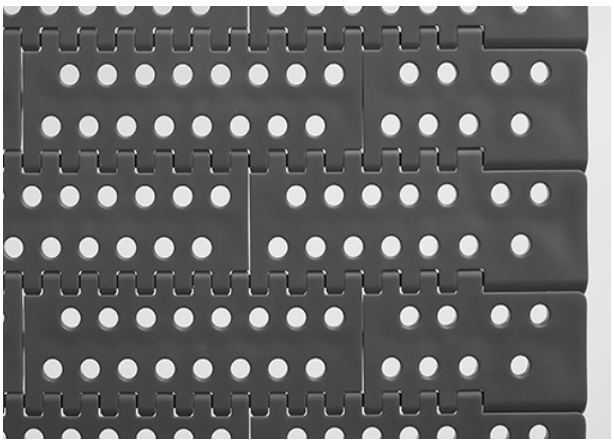
Perforated 11/32 in Round Hole with Heavy-Duty Edge

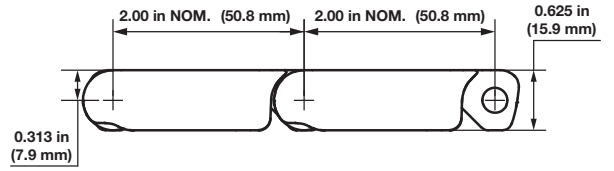
	in	mm
Pitch	2	50.8
Minimum Width	10	254.0
Width Increments	0.66	16.8
Opening Size (approximate)	11/32	8.75
Open Area	14%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed flush edge design provides a robust belt and eliminates catchpoints.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. The drive bar sweeps into the closed edge to further aid in washing away debris. Drive bar effectiveness is proven both in-house and in field tests.
- Impact-resistant belt designed for tough, meat-industry applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.





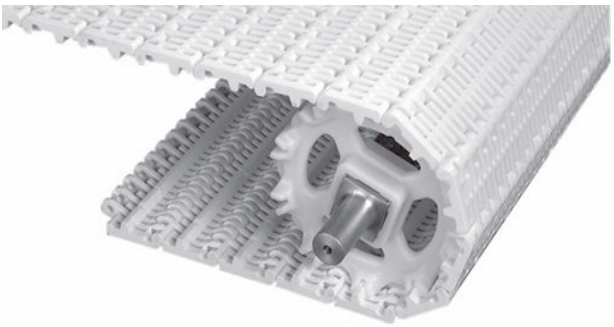
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
PK	PK	900	13,100	-40 to 176	-40 to 80	2.22	10.84

SERIES 800

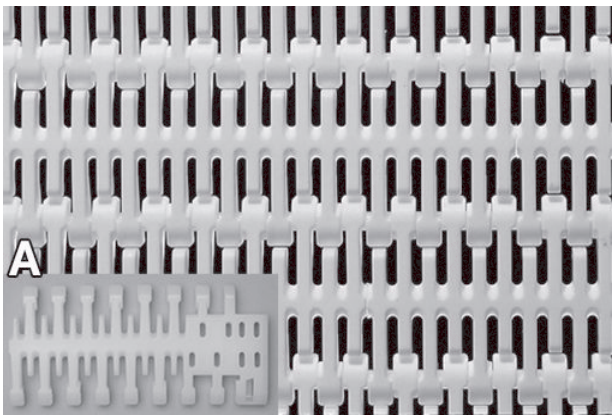
Flush Grid

	in	mm
Pitch	2.00	50.8
Minimum Width	4.6	117
Width Increments	0.66	16.8
Opening Size (approximate)	0.15 × 0.90	3.8 × 22.9
Open Area	27%	
Product Contact Area	73%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Open slots improve drainage and cleanability.
- Perforations on polyethylene edge modules are slightly different. See inset photo on right.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Provides excellent drainage during production and cleanup. Hole design eliminates water collecting on belt surface and being carried throughout processing line.
- Bi-directional belt design allows sprockets to drive or idle belt in both directions. Reduces chances of installation error.
- Complete range of accessories available, including round-top flights, flights with drainage bases, and sideguards.



A Inset: polyethylene edge module

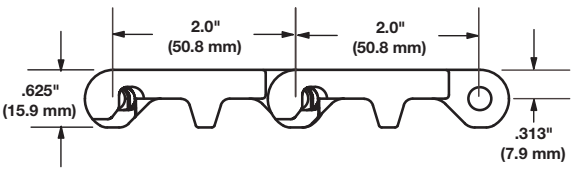


Figure 21: Polyethylene belts

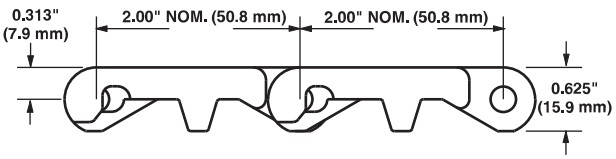


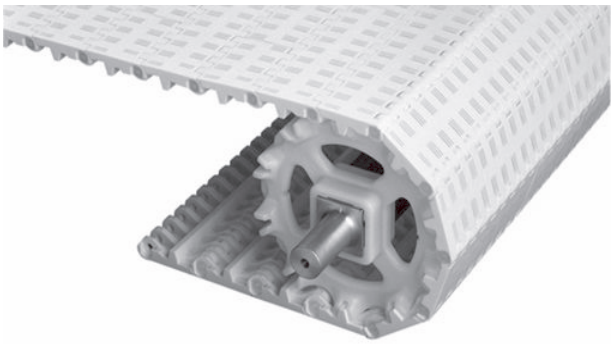
Figure 22: All other materials

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	11,700	34 to 220	1 to 104	1.45	7.08
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.63	7.96
Acetal	Polyethylene	1,000	14,600	-50 to 150	-46 to 66	2.25	10.99
Acetal	Polypropylene	1,000	14,600	34 to 200	1 to 93	2.25	10.99
Detectable polypropylene A22	Polypropylene	500	7,300	34 to 150	1 to 66	1.71	8.35
ChemBlox	ChemBlox	1,000	14,600	0 to 150	-18 to 66	2.83	13.82

Mesh Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	0.50 × 0.04	12.7 × 1.0
Open Area	9%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights are available.

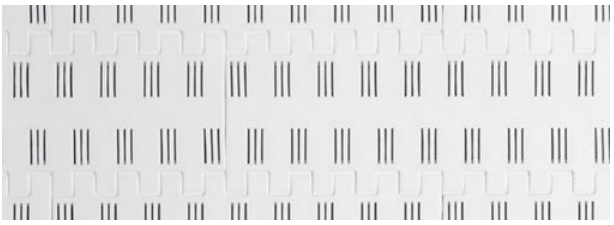


Figure 23: Top surface

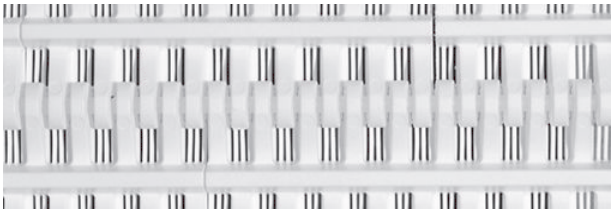


Figure 24: Underside surface

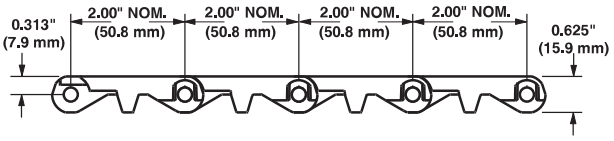


Figure 25: Dimensions

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.60	7.86

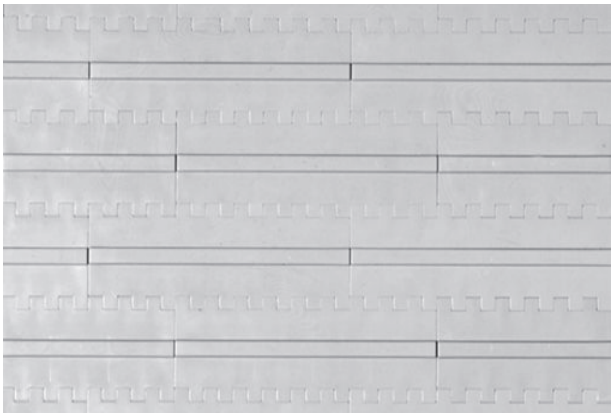
Mini Rib

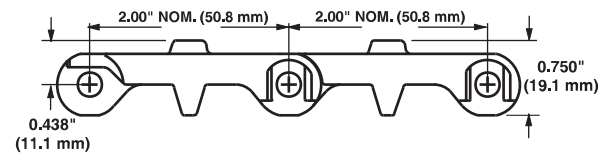
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed surface with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Impact resistant belt designed for tough meat industry applications.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Customer Service.
- 0.125 in (3 mm) Mini Rib on surface accommodates gradual inclines and declines.



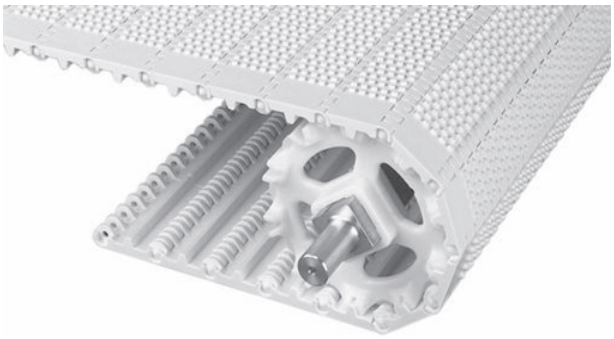


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.77	8.66
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.87	9.13
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.92	14.26

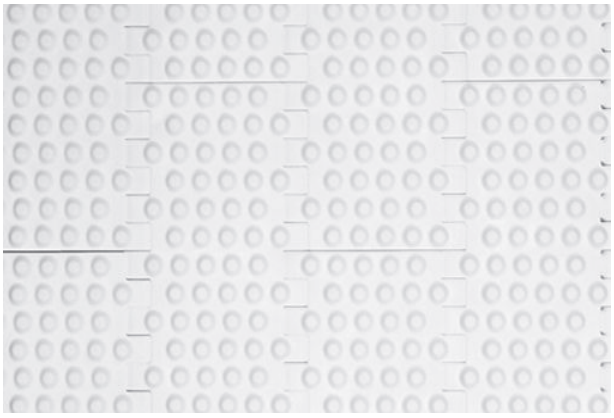
Nub Top

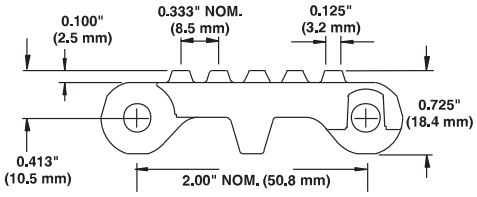
	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Open Area	0%	
Product Contact Area	15%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Customer Service.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Standard flights and sideguards (without nubs) are available.
- Standard nub indent: 1.3 in (33.0 mm).



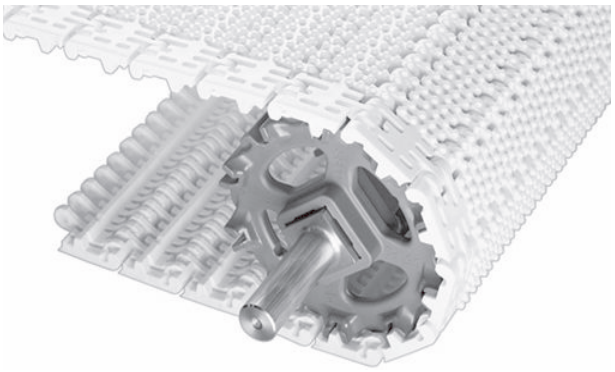


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.90	9.26
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	2.01	9.80
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.95	14.40

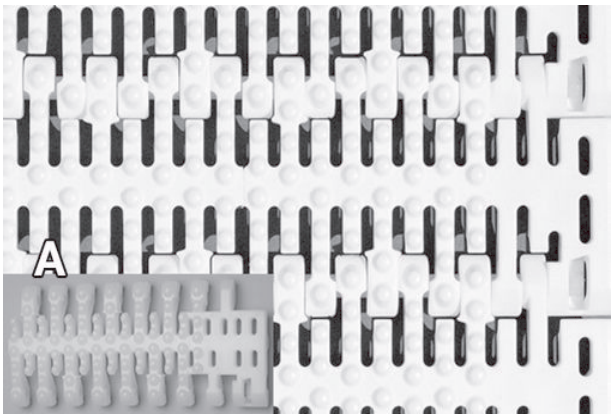
Flush Grid Nub Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4.6	117
Width Increments	0.66	16.8
Opening Size (approximate)	0.15 × 0.90	3.8 × 22.9
Open Area	27%	
Product Contact Area	15%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

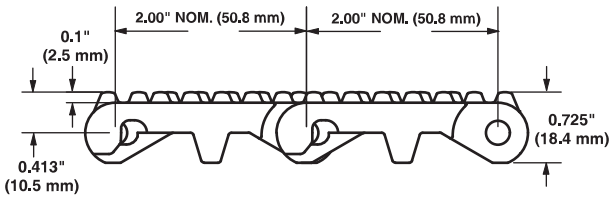


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Perforations on polyethylene edge modules are slightly different. See inset photo.
- Nub pattern reduces contact between belt surface and product.
- Nub pattern is continuous over the surface of the belt, even over the hinges.
- Available in acetal and polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Recommended for products large enough to span the distance between the nubs.
- Compatible with S800 Flush Grid flights only.
- Standard nub indent: 1.3 in (33.0 mm).



A Inset: polyethylene edge module

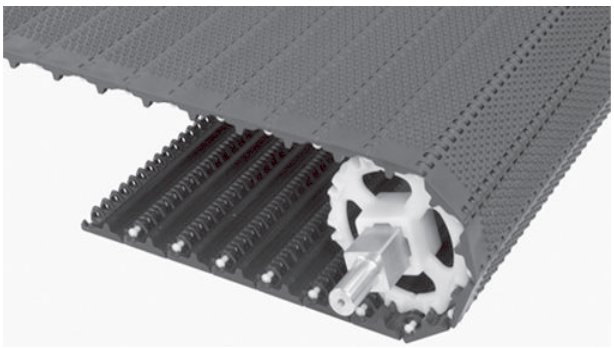


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	11,700	34 to 220	1 to 104	1.56	7.62
Acetal	Polyethylene	1,000	14,600	-50 to 150	-46 to 66	2.36	11.52
Acetal	Polypropylene	1,000	14,600	34 to 200	1 to 93	2.36	11.52
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.85	9.03

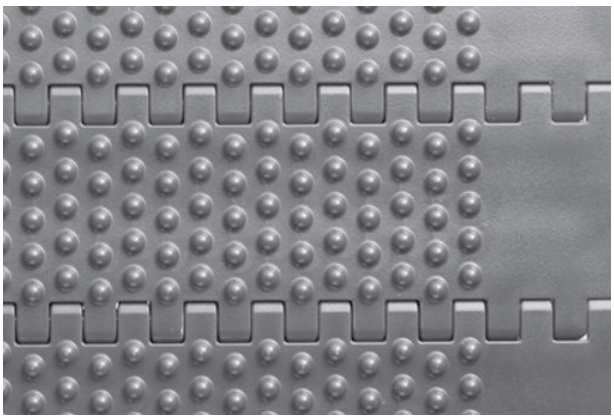
SeamFree™ Open Hinge Nub Top™

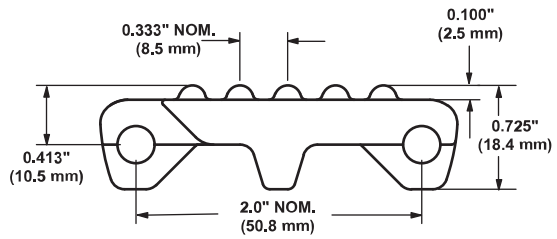
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Nub height: 0.100 in (2.5 mm).
- Nub spacing: 0.333 in (8.5 mm).
- Standard nub indent: 1.3 in (33.0 mm).





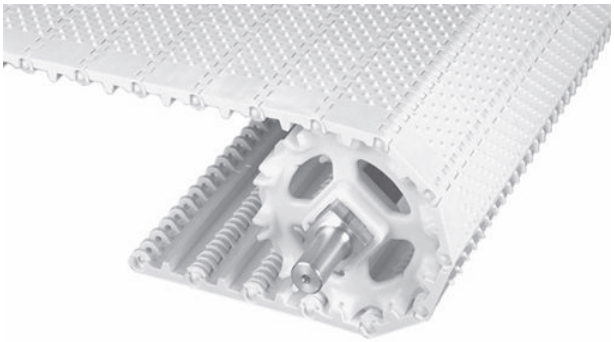
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.72	13.26
PK	PK	900	13,100	-40 to 176	-40 to 80	2.4	11.72

SERIES 800

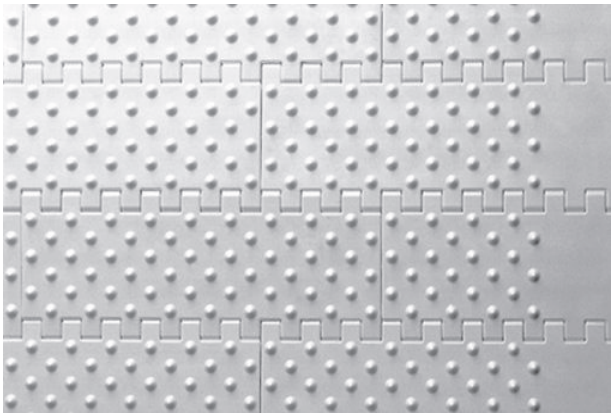
Cone Top™

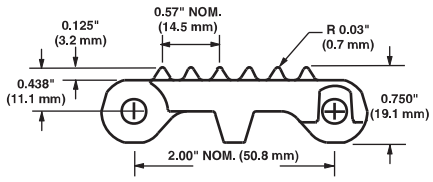
	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Customer Service.
- Standard flights and sideguards (without cones) are available.
- Standard cone indent: 1.3 in (33.0 mm).



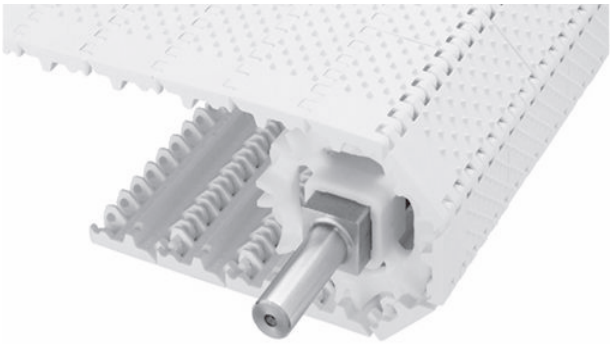


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.84	13.89

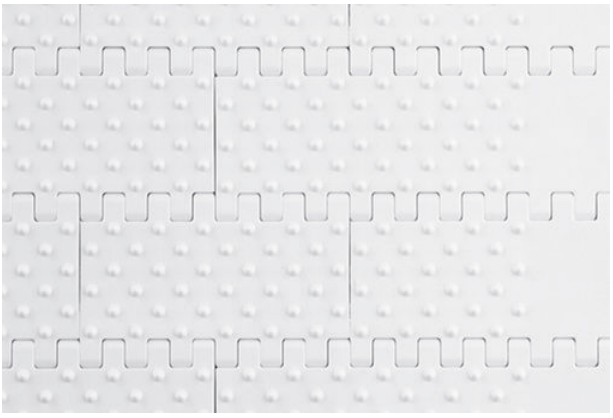
Open Hinge Cone Top™

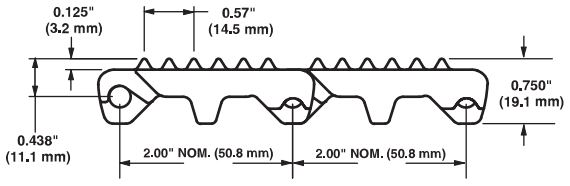
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Standard cone indent: 1.3 in (33.0 mm).
- Standard flights and sideguards (without cones) are available.



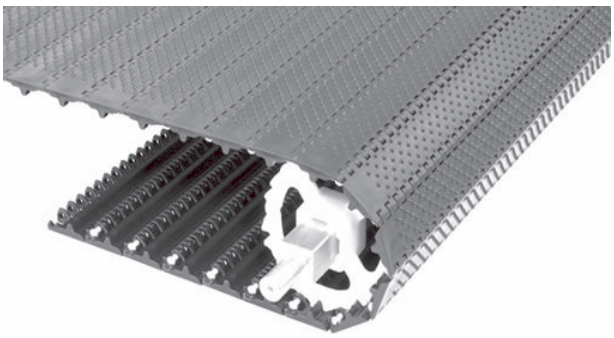


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	900	13,100	34 to 220	1 to 104	1.63	7.96
Polyethylene	Polyethylene	500	7,300	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polypropylene	900	13,100	-50 to 150	-46 to 66	2.52	12.3

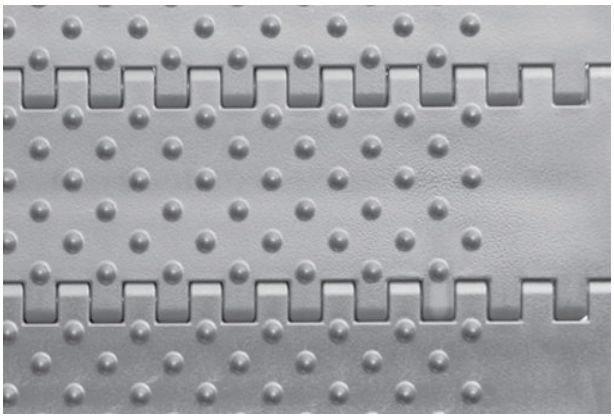
SeamFree™ Open Hinge Cone Top™

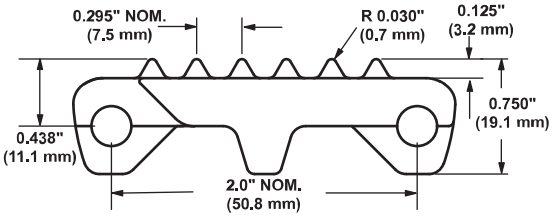
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Cone height: 0.125 in (3.2 mm).
- Cone spacing: 0.295 in (7.5 mm).
- Standard cone indent: 1.3 in (33 mm).



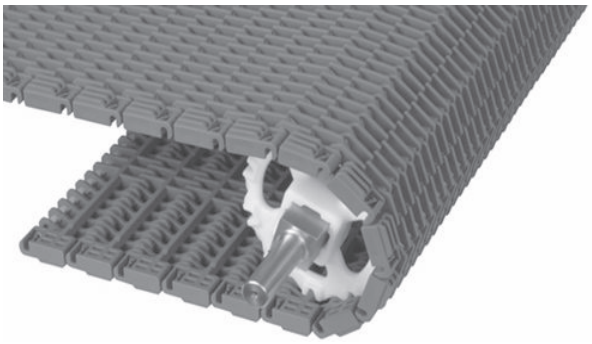


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	13,100	-50 to 150	-46 to 66	2.61	12.72

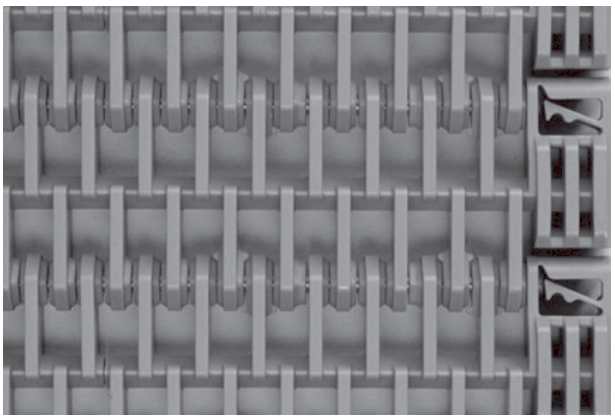
Raised Rib

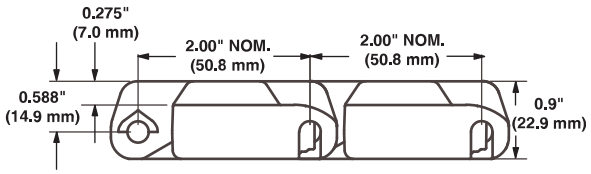
	in	mm
Pitch	2.00	50.8
Minimum Width	14	356
Width Increments	2.00	50.8
Opening Size (approximate)	0.51 x 0.49	12.9 x 12.4
Open Area	40%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open slots improve drainage and cleanability.
- Cam-link design hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Fully compatible with S800 EZ Clean™ angled sprockets.
- Finger transfer plates are available.
- Raised ribs extend 0.275 in (7.0 mm) above basic module with fully flush edges.



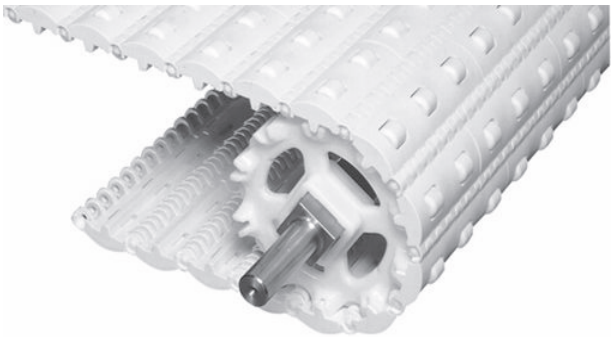


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.48	7.23
Enduralox PP	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.48	7.23

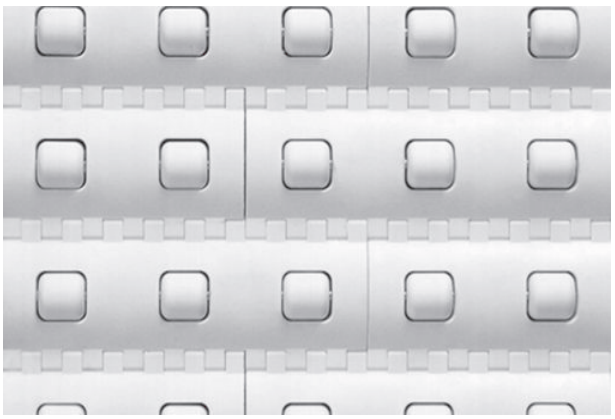
Roller Top

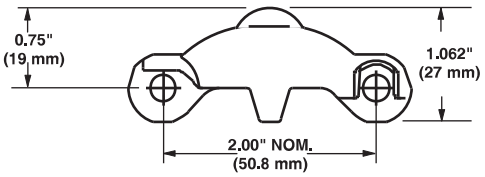
	in	mm
Pitch	2.00	50.8
Minimum Width	See *Product Notes*.	
Width Increments		
Opening Size	-	-
Open Area	3%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges.
- Uses acetal rollers.
- Uses stainless steel axles.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Impact resistant belt designed for tough box and package, low back-pressure applications.
- Product accumulation load is 5%–10% of product weight.
- Roller diameter: 0.70 in (17.8 mm). Roller length - 0.825 in (20.9 mm).
- Roller spacing: 2.0 in (50.8 mm).
- Standard roller indent: 0.60 in (15 mm).
- Custom widths of 4 in (102 mm) and 6 in (152 mm) and from 10 in (254 mm) and up, in 2.00 in (50.8 mm) increments.



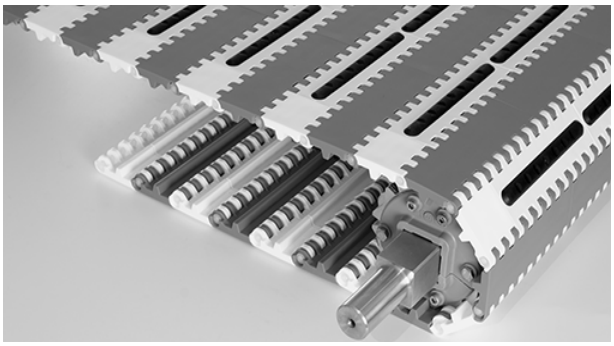


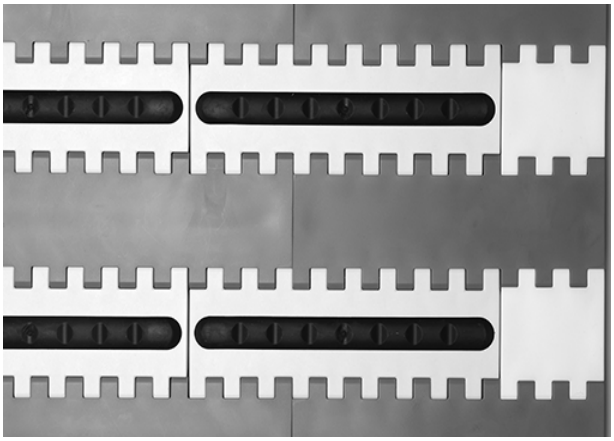
Belt Data

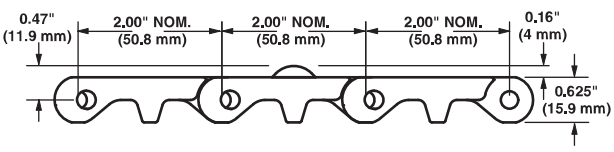
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1,000	14,600	34 to 200	1 to 93	2.93	14.34
Polyethylene	Acetal	500	7,300	-50 to 150	-46 to 66	2.99	14.62
Acetal	Acetal	900	13,100	-50 to 200	-46 to 93	4.11	20.10

Rounded Friction Top

	in	mm
Pitch	2.00	50.8
Minimum Width	8	203
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- The Rounded Friction Top module is black rubber on a white PP composite base module.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- No mistracking or stick-slip effect, even on long runs. Belt is positively tracked by the sprocket drive system instead of unreliable friction rollers.
- Thermally bonded rubber does not peel off. Friction Top surface is co-molded (thermally bonded) with the plastic base instead of glued on or mechanically fastened.
- Rounded Friction Top module can be used with other S800 styles. Use the belt strength rating of the accompanying modules.
- Easy to maintain and repair: Intralox reusable unheaded rods are quickly removed and installed with only minimal tools, so one can replace individual modules in minutes.
- No tensioning required, which eliminates expensive tensioning systems.
- Lower construction cost: Intralox sprocket drive requires far less space than a friction roller system, allowing shallow, less expensive trench construction.
- Lower wearstrip replacement cost: Flat Top edge modules prevent premature wearstrip erosion. The smooth surface spans 1.5 in (38.1) mm from the outer edge.

Belt Data

Base Belt Material	Base/ Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²	FDA (USA)	EU MC[a]
Polypropylene composite	White/black	Acetal	2,500	36,500	-50 to 150	-29 to 66	2.3	11.25	[b]	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

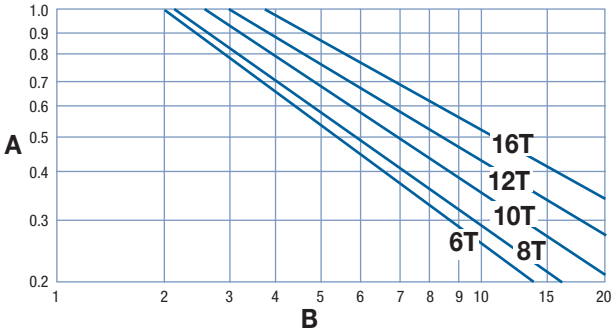
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1,067	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	8	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
120	3,048	21	15	11
144	3,658	25	17	13
For other widths, use odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.66 in (16.8 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. Polyurethane sprockets require a maximum 4 in (102 mm) centerline spacing.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

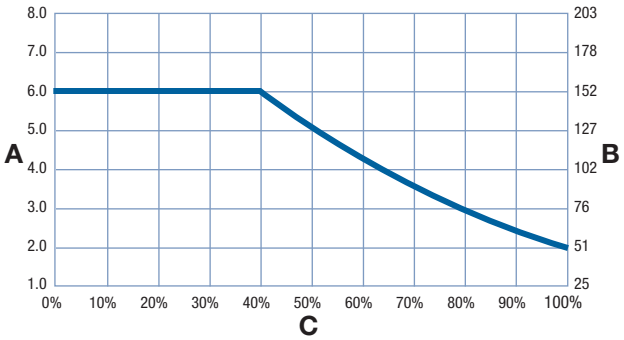
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed (V) by the shaft centerline distance (L). The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

EZ Clean™ Sprocket[a]

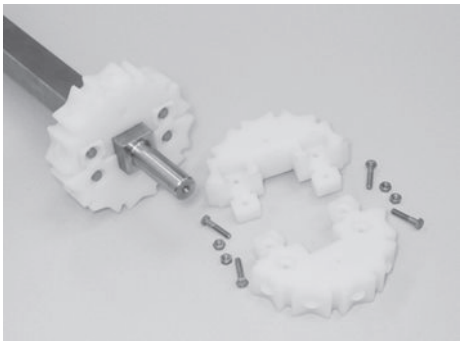
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm
6 (13.40%)	4.0	102	3.8	97	1.5	38	1.0	1.5	30	40
8 (7.61%)	5.2	132	5.0	127	1.5	38	1.0	1.5	30	40
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5		40
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5		40



[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

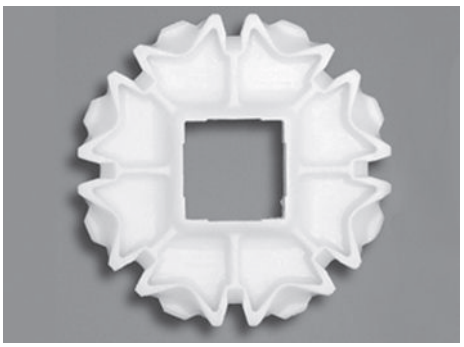
Split Ultra Abrasion Resistant Polyurethane (FDA) Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm	
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40	
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	10.3	262	10.1	257	1.5	38				40, 60	

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets. These sprockets are FDA-compliant.

[b] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

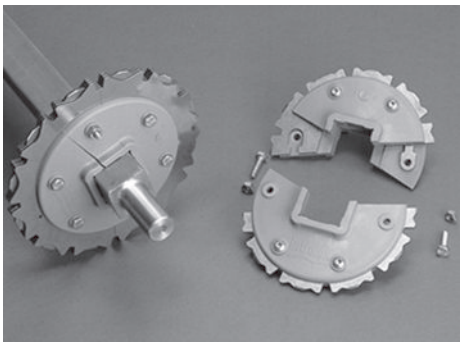
Molded Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5		40	
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5, 2.0, 2.5		40, 60	
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5, 2.5		40, 60	

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

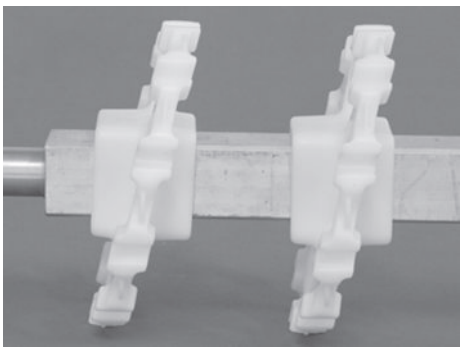
Abrasion Resistant Split Metal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	5.2	132	5.0	127	1.7	43		1.5, 2.5		40, 60
10 (4.89%)	6.5	165	6.2	157	1.7	43		1.5, 2.5		40, 60
12 (3.41%)	7.7	196	7.5	191	1.7	43		1.5, 2.5		40, 60
16 (1.92%)	10.3	262	10.1	257	1.7	43		1.5, 2.5		40, 60



Angled EZ Clean™ Sprocket[a]

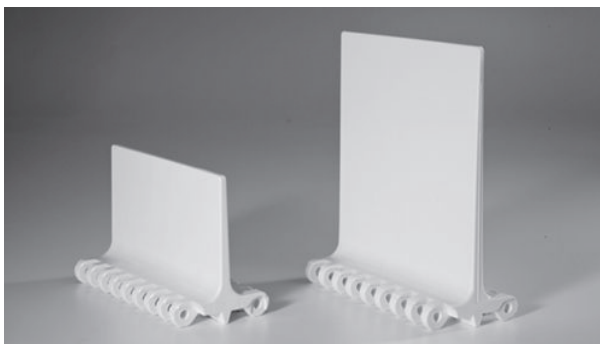
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.8	97	2.0	50.8		1.5		40
8 (7.61%)	5.2	132	5.0	127	2.0	50.8		1.5		40
10 (4.89%)	6.5	165	6.2	157	2.0	50.8		1.5		40
12 (3.41%)	7.7	196	7.5	191	2.0	50.8		1.5		40
16 (1.92%)	10.3	262	10.1	257	2.0	50.8		1.5, 2.5		40, 60



[a] Do not use Angled EZ Clean sprockets with S800 Mesh Top, Flush Grid, and Flush Grid Nub Top.

Streamline Flights[a]

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene, acetal, nylon
2	51	
3	76	
4	102	
6	152	



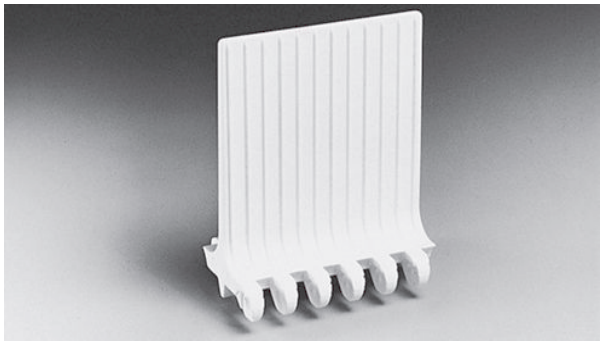
- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

[a] Contact Intralox Customer Service for availability.

Flat Top Base Flights (No-Cling)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

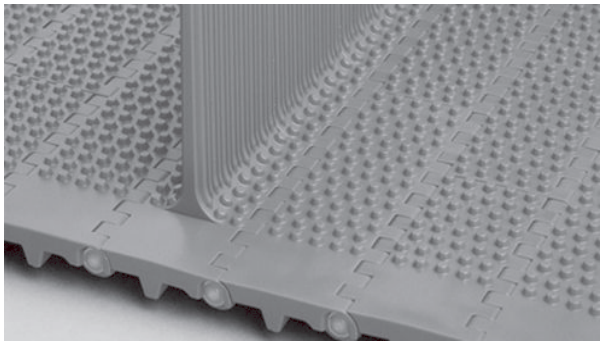
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).



Nub Top Base Flights (Double No-Cling)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

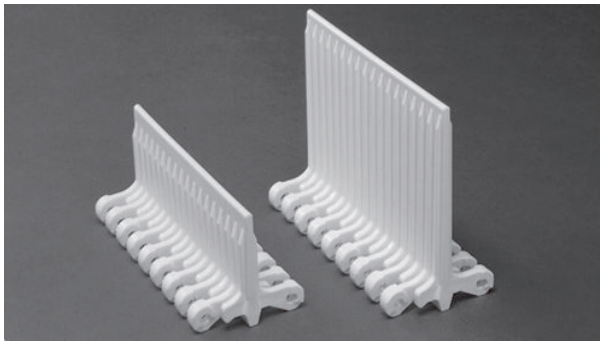
- No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

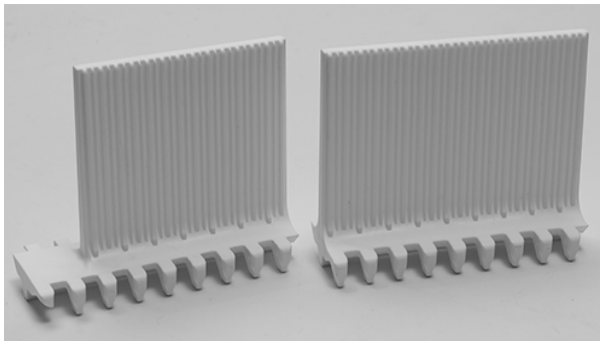


Flush Grid Base Flights (No-Cling)

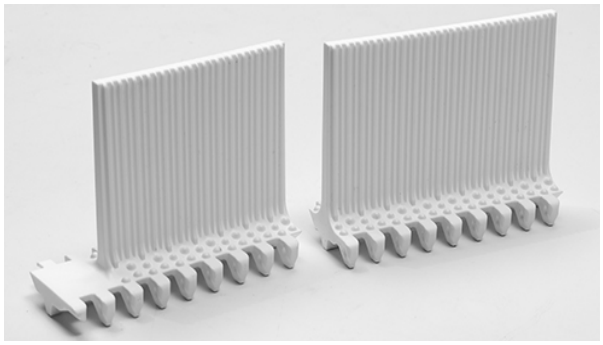
Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal, ChemBlox™, detectable polypropylene A22
4	102	

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- These flights cannot be used with the S800 Perforated Flat Top (slotted version with 18% open area).
- Molded 1.3 in (33 mm) indent available.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).



No-Cling Impact Resistant Open Hinge Flights			
Available Flight Height		**Available Materials**	
in	**mm**		
4	102	Acetal, polypropylene, polyethylene	

- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Available with a 1.3 in (33 mm) molded indent.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

No-Cling Impact Resistant Open Hinge Nub Top Flights			
Available Flight Height		**Available Materials**	
in	**mm**		
4	102	Acetal, polypropylene, PK	

- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Available with a 1.3 in (33 mm) molded indent.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

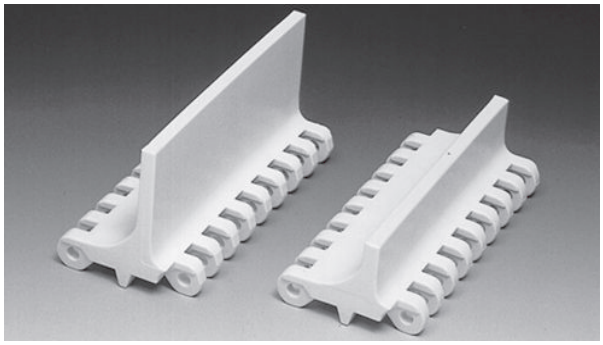
Heavy-Duty Edge Flights			
Available Flight Height		**Available Materials**	
in	**mm**		
4	102	PK	

- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Available with 1.3 in (33 mm) and 2 in (51 mm) molded indent.
- Flights can be cut down to custom heights. Minimum height: 1.0 in (25.4 mm).
- Streamline flights are smooth on both sides.

Impact Resistant Flights

Available Flight Height		Available Materials
in	mm	
1	25	Acetal, X-ray detectable acetal
2	51	
3	76	
4	102	

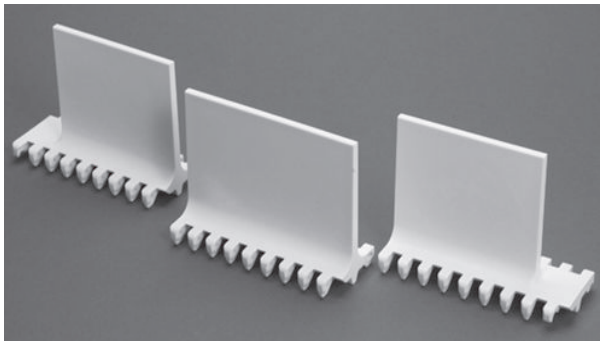
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).



Open Hinge Impact Resistant Flights

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal, X-ray detectable acetal, ChemBlox™, PK
6	152	

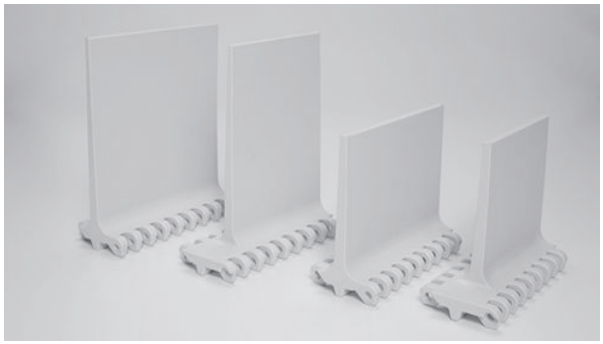
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Standard 4 in (102 mm) height can be cut to suit application.
- Available with 1.3 in (33 mm) and 2 in (51 mm) molded indent.
- Minimum indent without sideguards: 1.3 in (33 mm).



Tough Flights

Available Flight Height		Available Materials
in	mm	
4	102	Hi-Impact
6	152	

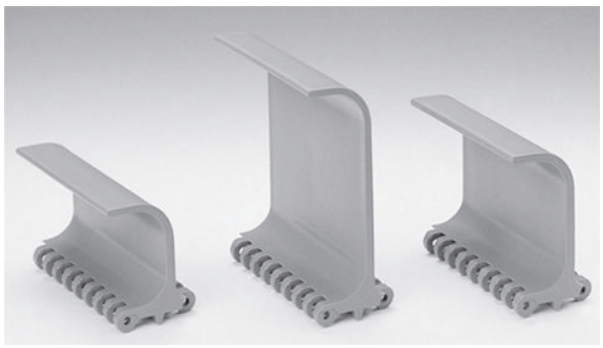
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Molded 2 in (51 mm) indent available.
- Minimum indent without sideguards: 1.3 in (33 mm).



Scoop Flights[a]

Available Flight Height		Available Materials
in	mm	
3	76	Acetal, polyethylene, polypropylene, ChemBlox™, nylon, PK
4	102	
6	152	

- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards:1.3 in (33 mm).



[a] Contact Intralox Customer Service for availability.

Heavy-Duty Edge Scoop Flights[b]

Available Flight Height		Available Materials
in	mm	
4	102	PK
6	152	

- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

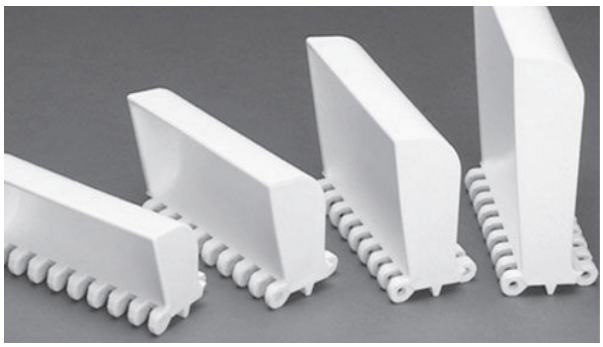


[b] Contact Intralox Customer Service for availability.

Bucket Flights[a]

Available Flight Height		Available Materials
in	mm	
2.25[b]	57[b]	Polypropylene, polyethylene, acetal
3	76	
4	102	
6	152	

- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

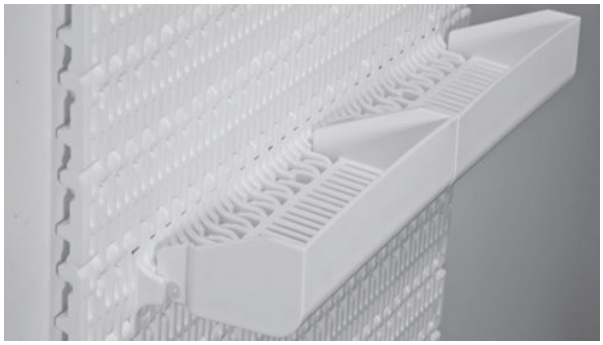


[a] Contact Intralox Customer Service for availability.
[b] 2.25 in (57 mm) bucket flight only available in polypropylene.

3-Piece Perforated Bucket and Scoop Flights

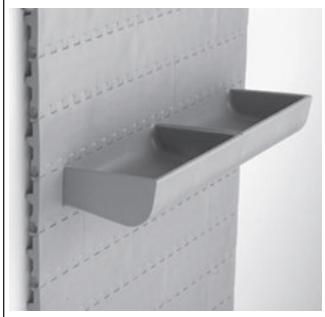
Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene[a], acetal[a]

- Flights consist of 3 pieces: the base module, the attachment, and the rod.
- Open slots improve drainage for inclines.
- Flight surface has 30% open area.
- Belt surface has 0% open area. Base module is S800 Flat Top Open Hinge.
- Flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Do not use with S800 Perforated Flat Top (slotted version with 18% open area) or S800 Flush Grid Nub Top.
- Bucket profile has a 0.27 in (6.9 mm) gap between the belt top surface and the bottom surface of bucket side panel.
- Approximate flight surface opening size: 0.130 in (3.3 mm) × 2.40 in (70.0 mm).
- Minimum indent without sideguards:2.00 in (50.8 mm).

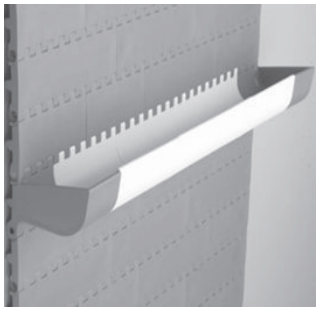


[a] Contact Intralox Customer Service for availability.

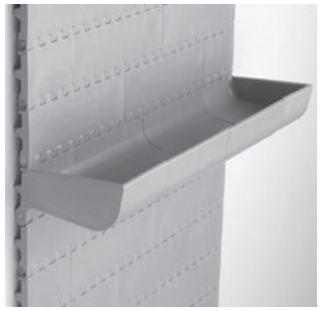
Combining Bucket Flights and Scoop Flights



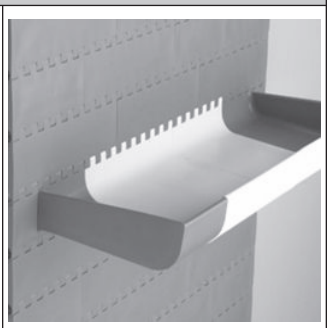
6 in (152 mm) bucket flights with indent



3 in (76 mm) bucket flight and scoop flights, no indent



4 in (102 mm) bucket flight and scoop flights, no indent



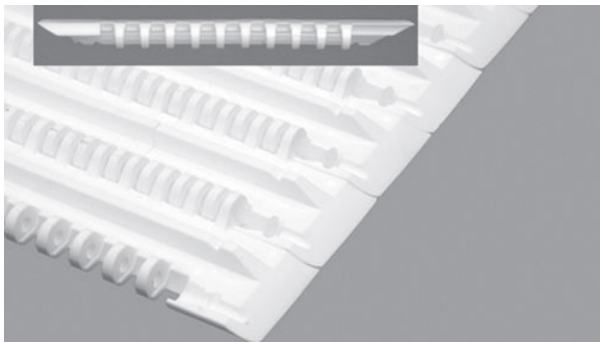
6 in (152 mm) bucket flight and scoop flights with indent

Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.

Tapered Edge

Available Materials
Polypropylene, acetal

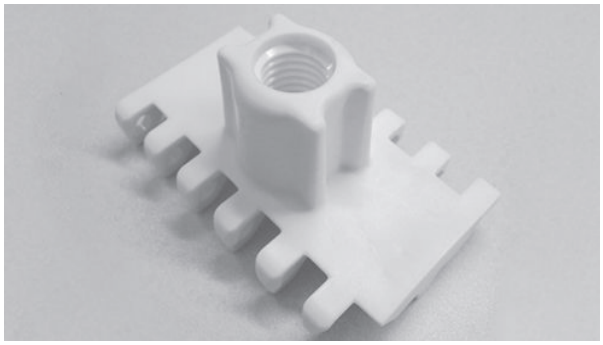
- Compatible with S800 Flat Top and S800 Mesh Top.
- Designed to accept headed plastic rods.
- Steel rods can be retained with plastic rodlets.



Threaded Barrel Attachments

Available Materials
Acetal

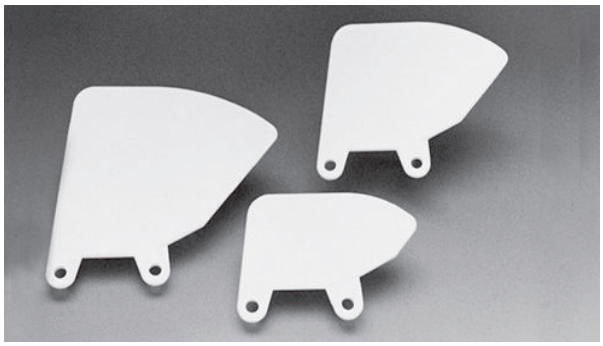
- Attaches to S800 Open Hinge Flat Top modules–4 in (102 mm) wide.
- 3/4 in-10 thread.
- Commonly used on poultry cone assemblies for the manual deboning process.



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal
3	76	
4	102	
6	152	

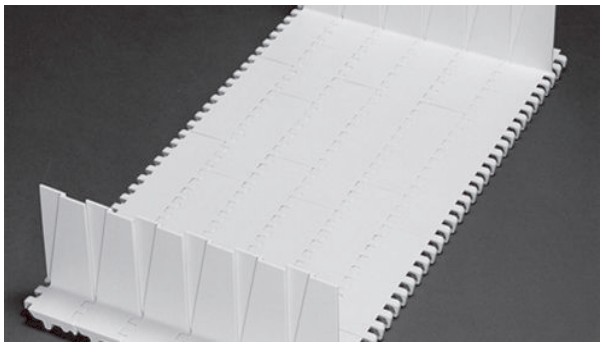
- Standard overlap design ensures product containment.
- Fastens to belt with hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 8-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 10-, 12- and 16-tooth sprockets.
- Standard gap between sideguards and flight edge: 0.3 in (8 mm).
- Minimum indent: 0.7 in (18 mm) except for Flush Grid which is 1.3 in (33 mm).



Molded-in Sideguards

Available Sizes		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

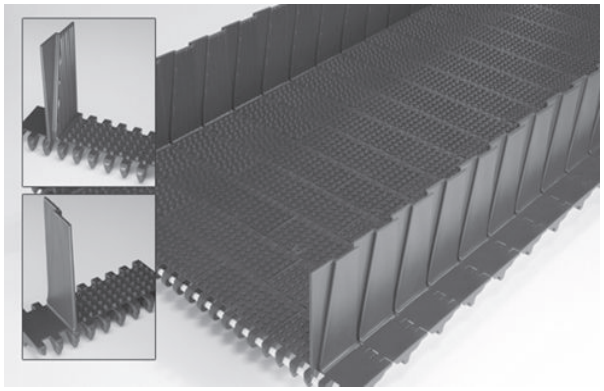
- Molded as integral part of the belt with no fasteners required.
- Part of the Intralox EZ Clean product line.
- Overlapping sideguards fully open when wrapping around sprocket, allowing greater access during cleaning. Sideguards partially open on forward bends of elevating conveyors.
- Sideguards can be spliced into all S800 belts, except Flat Top, Perforated Flat Top (18% open area) and Flush Grid Nub Top.
- Standard 4 in (102 mm) height can be cut to suit application.
- Molded indent: 1.3 in (33 mm).
- Minimum backbend radius: 12 in (305 mm).



Nub Top Molded-In Sideguards

Available Sizes		Available Materials
in	mm	
4	102	Acetal, polypropylene

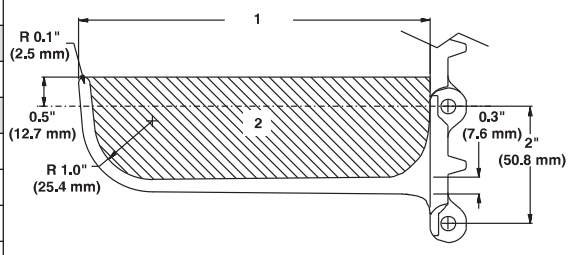
- Molded as integral part of the belt with no fasteners required.
- Part of the Intralox EZ Clean product line.
- Nub Top design and No-Cling rib feature provide a non-stick conveying surface that delivers superior product release and cleanability.
- Overlapping sideguards fully open when wrapping around sprocket, allowing greater access during cleaning. Sideguards partially open on forward bends of elevating conveyors.
- Sideguards can be spliced into all Series 800 belts, except Series 800 Perforated Flat Top (18% open area) and Series 800 Flush Grid Nub Top.
- Standard 4 in (102 mm) height can be cut to suit application.
- Molded indent: 1.3 in (33 mm).
- Minimum backbend radius:10 in (254 mm).



Scoop/Bucket Flight Cross-Sectional Area for Vertical Incline

in	mm	sq in	sq mm
Scoop Height		Area	
3	76	4.3	2774
4	102	6.0	3871
6	152	9.5	6129
Bucket Height		Area	
2.25	57	2.3	1484
3.00	76	4.3	2774
4.00	102	6.0	3871
6.00	152	9.5	6129

Minimum row spacing: 6 in (152 mm) for 6 in (152 mm) scoops and buckets, and 4 in (102 mm) for all other sizes.

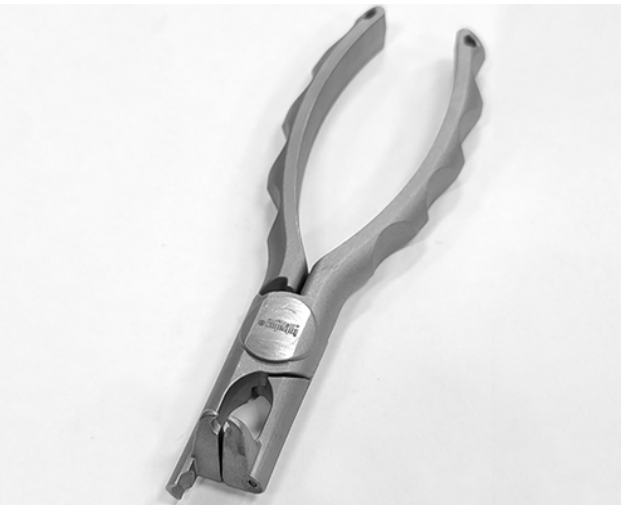


1 height
2 area

Intralox Rod Removers

	U.S. Units	Metric Units
Length	6.5 in	165.1 mm
Width	2.2 in	55.9 mm
Height	1.1 in	27.9 mm
Weight	0.54 lb	1.2 kg

- Designed to minimize belt and rod damage when inserting or removing headed and unheaded rods.
- Eliminates foreign material contamination caused by belt or rod damage.
- Etched QR code on the tool links to an instructional video.
- Intuitive design for sanitation and maintenance users.
- Compatible with:
  - S800 Flat Top
  - S800 Open Hinge Flat Top
  - S800 Open Hinge Flat Top with Heavy-Duty Edge
  - S800 Perforated Flat Top
  - For up-to-date compatibility with other belts, contact Intralox Customer Service.



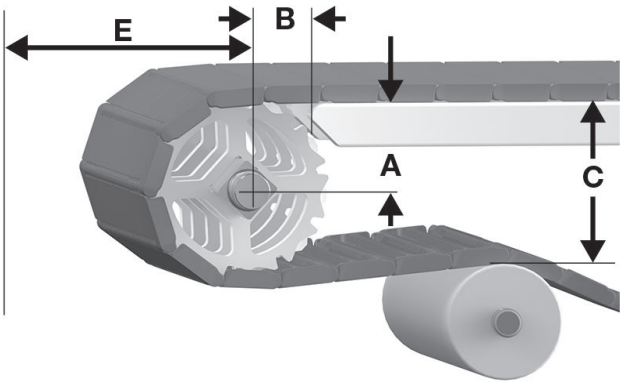
Intralox Belt Puller Set			
Single Belt Puller	**U.S. Units**	**Metric Units**	
Length	14.4 in	365.8 mm	
Width	4.2 in	106.7 mm	
Height	0.5 in	12.7 mm	
Weight	2 lb	0.9 kg	
Belt Puller Set			
Weight	6 lb	2.7 kg	

- Can be used in carryways and returnways to install, close, or open compatible belts.
- Improves worker safety.
- Reduces the number of people required to install or remove large or inclined belts.
- Reduces the risk of belt damage that can lead to foreign material contamination.
- Set includes two belt pullers and one Intralox ratchet strap.
- Solid metal construction with dedicated metal rod that locks into the belt puller.
- Etched QR code on the tool links to an instructional video.
- Compatible with S800, S888, and S1800 belts. For up-to-date compatibility information, contact Intralox Customer Service.



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 26: A, B, C, and E drive dimensions

S800 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid, Mesh Top, Open Hinge Flat Top, Open Hinge Flat Top with Heavy-Duty Edge, SeamFree Open Hinge Flat Top, Tough Flat Top, Perforated Flat Top (all styles)										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.00	102	2.38	60
5.2	132	8	2.09-2.29	53-58	2.00	51	5.20	132	2.98	76
6.5	165	10	2.78-2.94	71-75	2.16	55	6.50	165	3.63	92
7.7	196	12	3.41-3.54	87-90	2.45	62	7.70	196	4.23	107
10.3	262	16	4.74-4.84	120-123	2.84	72	10.30	262	5.53	140
Mini Rib										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64
5.2	132	8	2.09-2.29	53-58	2.00	51	5.33	135	3.10	79
6.5	165	10	2.78-2.94	71-75	2.16	55	6.63	168	3.75	95
7.7	196	12	3.41-3.54	87-90	2.45	62	7.83	199	4.35	110
10.3	262	16	4.74-4.84	120-123	2.84	72	10.43	265	5.65	144
Flush Grid Nub Top, Nub Top, SeamFree Open Hinge Nub Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.10	104	2.48	63
5.2	132	8	2.10-2.30	53-58	1.98	50	5.33	135	3.09	78
6.5	165	10	2.77-2.92	70-74	2.18	55	6.57	167	3.71	94
7.7	196	12	3.42-3.55	87-90	2.43	62	7.83	199	4.34	110
10.3	262	16	4.72-4.81	120-122	2.88	73	10.35	263	5.60	142
Cone Top, Open Hinge Cone Top, SeamFree Open Hinge Cone Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64
5.2	132	8	2.10-2.30	53-58	1.98	50	5.35	136	3.11	79
6.5	165	10	2.77-2.92	70-74	2.18	55	6.60	168	3.74	95
7.7	196	12	3.42-3.55	87-90	2.43	62	7.85	199	4.36	111
10.3	262	16	4.72-4.81	120-122	2.88	73	10.38	264	5.63	143
Roller Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.44	113	2.81	71
5.2	132	8	2.10-2.30	53-58	1.98	50	5.66	144	3.43	87
6.5	165	10	2.77-2.92	70-74	2.18	55	6.91	176	4.05	103
7.7	196	12	3.42-3.55	87-90	2.43	62	8.17	207	4.68	119
10.3	262	16	4.72-4.81	120-122	2.88	73	10.69	272	5.94	151
Raised Rib										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.28	109	2.65	67
5.2	132	8	2.09-2.29	53-58	2.00	51	5.48	139	3.25	83
6.5	165	10	2.78-2.94	71-75	2.16	55	6.78	172	3.90	99
7.7	196	12	3.41-3.54	87-90	2.45	62	7.98	203	4.50	114
10.3	262	16	4.74-4.84	120-123	2.84	72	10.58	269	5.80	147
Round Friction Top										
4.0	102	6	1.42-1.69	36-43	1.74	44	4.16	106	2.53	64
5.2	132	8	2.09-2.29	53-58	2.00	51	5.36	136	3.13	80
6.5	165	10	2.78-2.94	71-75	2.17	55	6.66	169	3.78	96
7.7	196	12	3.40-3.54	86-90	2.45	62	7.86	200	4.38	111
10.3	262	16	4.74-4.84	120-123	2.84	72	10.46	266	5.68	144

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

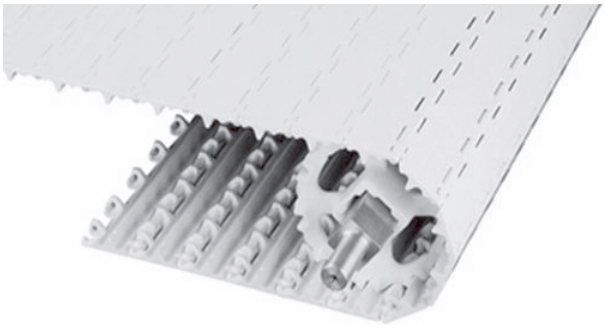
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S800 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
4.0	102	6	0.268	6.8
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4
10.3	262	16	0.098	2.5

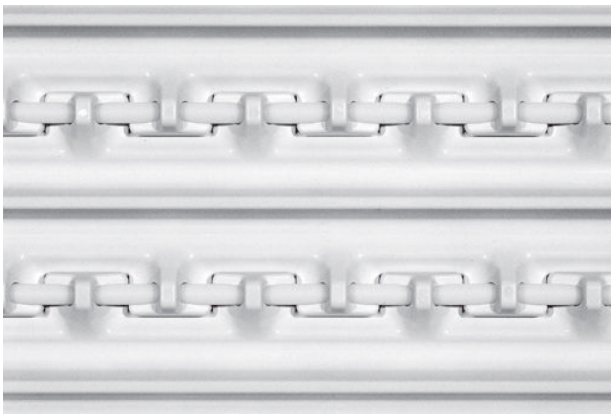
SeamFree™ Minimum Hinge Flat Top

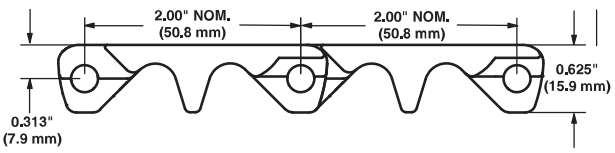
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Detailed material information is provided at the beginning of Product Line.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Designed for use with S800 Angled EZ Clean sprockets. Also fully compatible with standard S800 EZ Clean sprockets.
- Belts over 36 in (914 mm) are built with multiple modules per row, but seams are minimized.



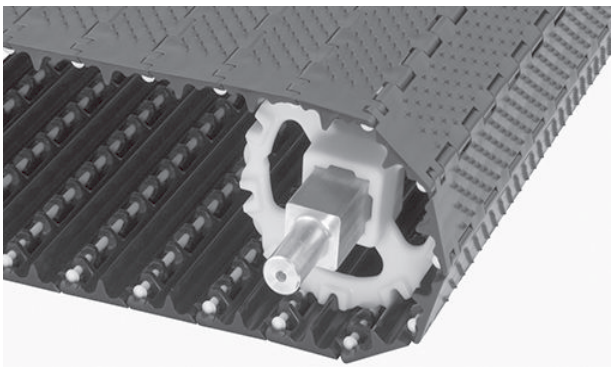


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	275	4,010	-50 to 200	-46 to 93	2.19	10.68
Acetal	Polypropylene	250	3,650	34 to 200	1 to 93	2.13	10.41
Acetal	Polyethylene	150	2,190	-50 to 150	-46 to 66	2.13	10.40
Polyethylene	Acetal	200	2,920	-50 to 150	-46 to 66	1.50	7.32
Polyethylene	Polyethylene	150	2,190	-50 to 150	-46 to 66	1.44	7.05

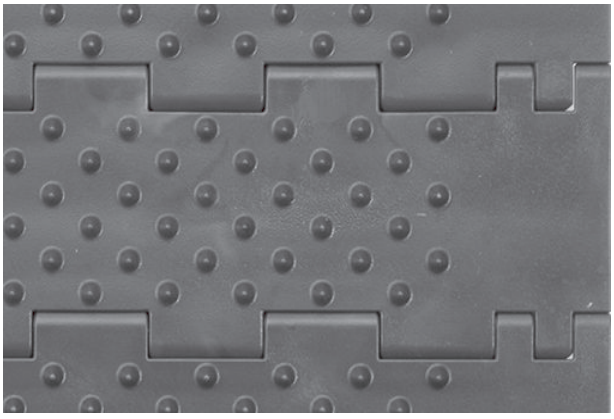
SeamFree™ Minimum Hinge Cone Top™

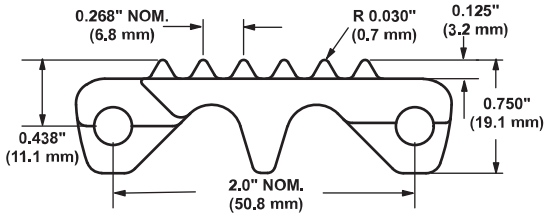
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Maximum Width	36	914
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Detailed material information is provided at the beginning of Product Line.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Cone height: 0.125 in (3.2 mm).
- Cone spacing: 0.268 in (6.88 mm).
- Standard cone indent: 1.3 in (33 mm).





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	275	4,010	-50 to 200	-46 to 93	2.28	11.13
Acetal	Polypropylene	250	3,650	34 to 200	1 to 93	2.22	10.84
Acetal	Polyethylene	150	2,190	-50 to 150	-46 to 66	2.22	10.84
Polyethylene	Acetal	200	2,920	-50 to 150	-46 to 66	1.56	7.62
Polyethylene	Polypropylene	150	2,190	-50 to 150	-46 to 66	1.50	7.32

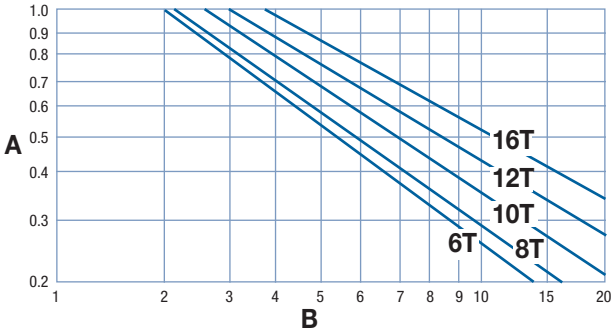
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1,067	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	8	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
120	3,048	21	15	11
144	3,658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. Polyurethane sprockets require a maximum 4 in (102 mm) centerline spacing.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

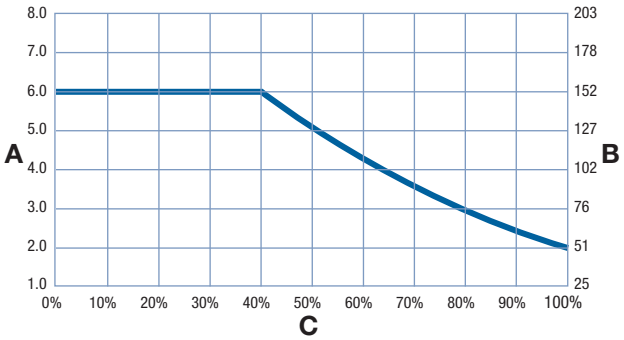
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

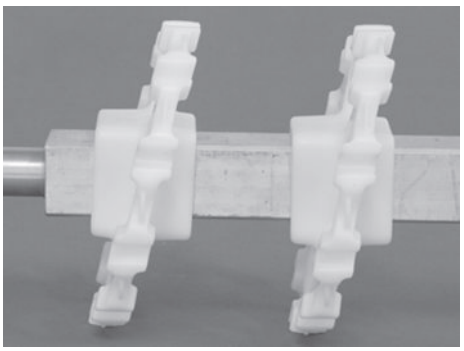
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Angled EZ Clean™ Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.8	97	2.0	50.8		1.5		40
8 (7.61%)	5.2	132	5.0	127	2.0	50.8		1.5		40
10 (4.89%)	6.5	165	6.2	157	2.0	50.8		1.5		40
12 (3.41%)	7.7	196	7.5	191	2.0	50.8		1.5		40
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5, 2.5		40, 60

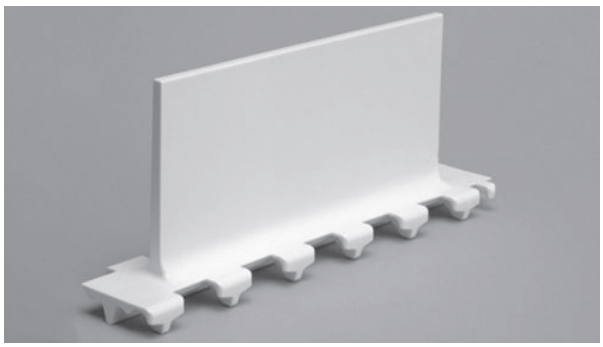


[a] Do not use Angled EZ Clean sprockets with Series 800 Mesh Top.

Streamline Flights

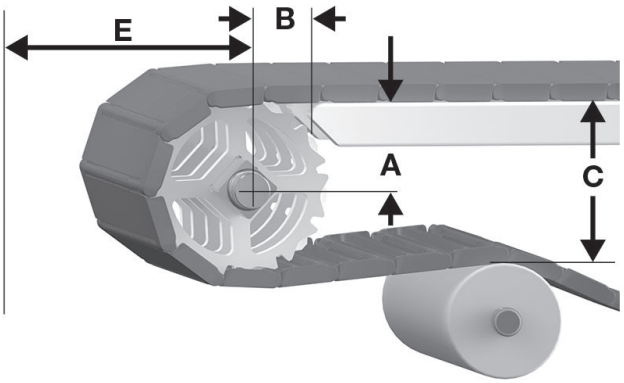
Available Flight Height		Available Materials
in	mm	
4	102	Acetal

- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- SeamFree flights are available in 12 in (304 mm) widths. Flighted belts greater than 12 in (304 mm) wide are available with seams minimized.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Molded-in, 1.3 in (33 mm) indent from each edge.



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 27: A, B, C, and E drive dimensions

S850 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
SeamFree Minimum Hinge Flat Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.00	102	2.38	60
5.2	132	8	2.09-2.29	53-58	2.00	51	5.20	132	2.98	76
6.5	165	10	2.78-2.94	71-75	2.16	55	6.50	165	3.63	92
7.7	196	12	3.41-3.54	87-90	2.45	62	7.70	196	4.23	107
10.3	262	16	4.74-4.84	120-123	2.84	72	10.30	262	5.53	140
SeamFree Minimum Hinge Cone Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64
5.2	132	8	2.10-2.30	53-58	1.98	50	5.35	136	3.11	79
6.5	165	10	2.77-2.92	70-74	2.18	55	6.60	168	3.74	95
7.7	196	12	3.42-3.55	87-90	2.43	62	7.85	199	4.36	111
10.3	262	16	4.72-4.81	120-122	2.88	73	10.38	264	5.63	143

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

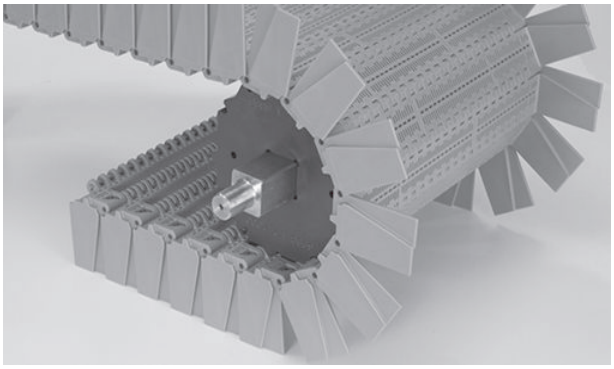
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S850 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

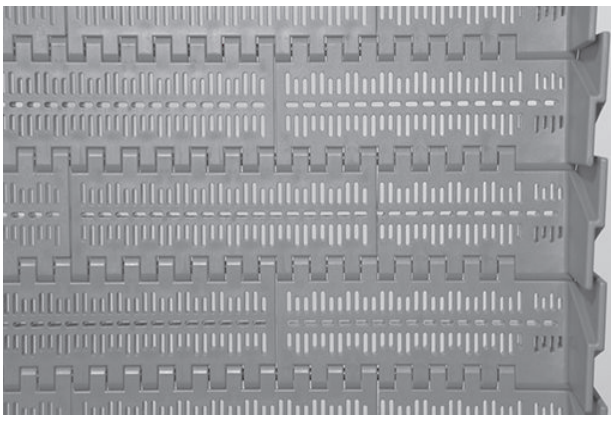
Medium Slot

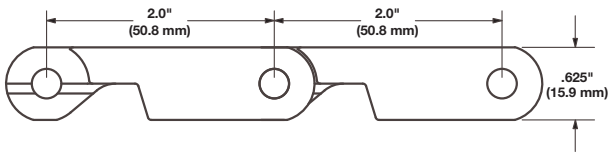
	in	mm
Pitch	1.99	50.5
Minimum Width	6.0	152
Width Increments	0.66	17
Slot Size, Linear	0.08 x 0.40	2.0 x 10.2
Slot Size, Transverse	0.09 x 0.24	2.3 x 6.1
Open Area	20%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards. Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges to provide maximum use of belt surface.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Drive system requires less back-tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7.0 in (180 mm).





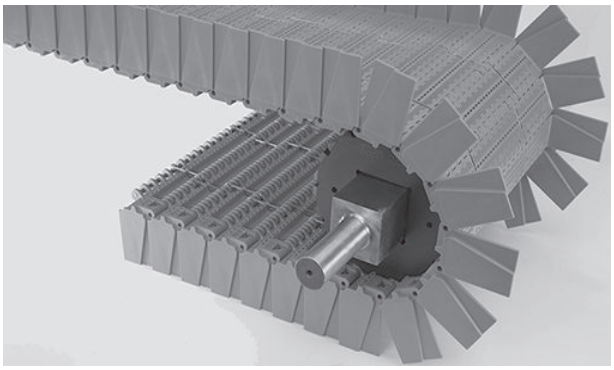
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	303/304 stainless steel	1,500	21,900	34 to 220	1 to 104	2.4	11.7

SERIES 888

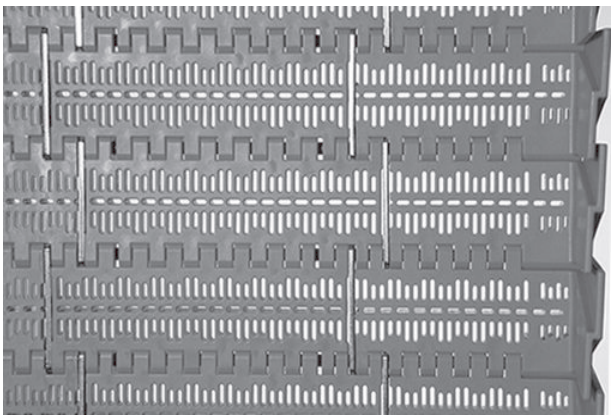
Medium Slot Stainless Steel Link (SSL)

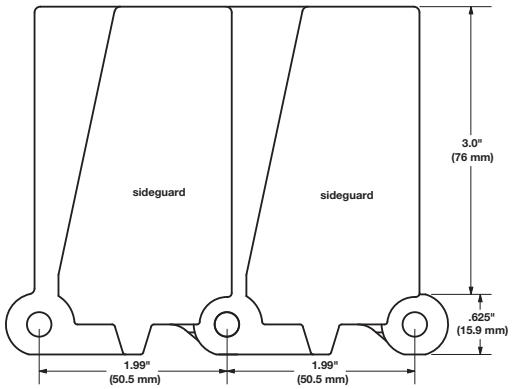
	in	mm
Pitch	1.99	50.5
Minimum Width	11.3	288
Width Increments	0.66	17
Slot Size, Linear	0.08 x 0.40	2.0 x 10.2
Slot Size, Transverse	0.09 x 0.24	2.3 x 6.1
Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards. Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges to provide maximum use of the belt surface.
- Stainless steel links (SSL) are integrated into the belt design to manage high loads and thermal expansion associated with temperature variations.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Drive system requires less back tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7 in (180 mm).



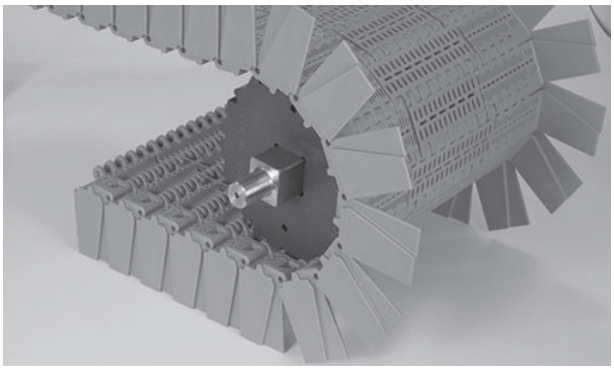


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Wear-resistant stainless steel	2,000	29,200	34 to 220	1 to 104	2.6	12.7

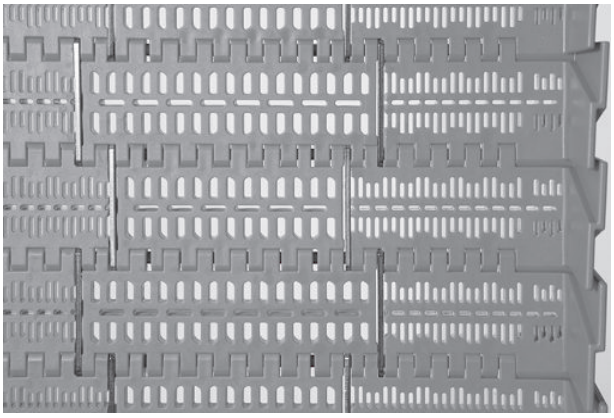
Large Slot Stainless Steel Link (SSL)

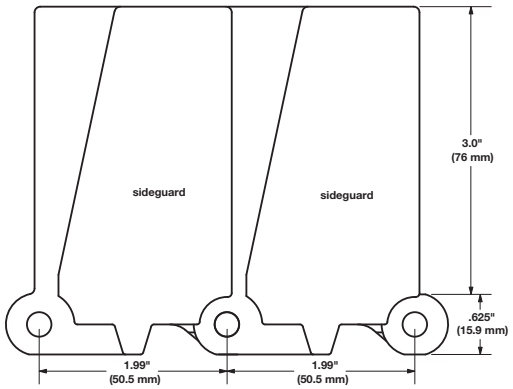
	in	mm
Pitch	1.99	50.5
Minimum Width	16.0	406
Width Increments	0.66	17
Slot Size, Linear	0.16 x 0.39	4.1 x 9.9
Slot Size, Transverse	0.12 x 0.50	3.0 x 12.7
Open Area	22%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards. Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges and provide maximum use of belt surface.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Stainless steel links (SSL) are integrated into the belt design to manage high loads and thermal expansion associated with temperature variations.
- Proven Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Proven drive system requires less back tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7 in (180 mm).



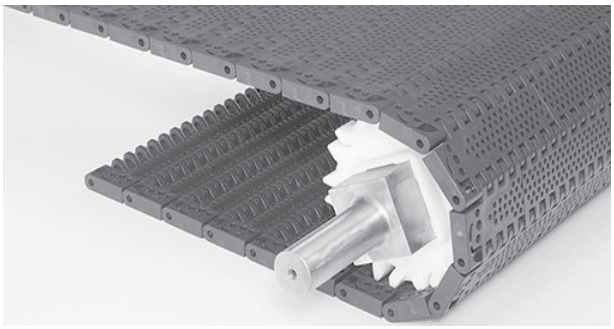


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Wear-resistant stainless steel	2,000	29,200	34 to 220	1 to 104	2.6	12.7

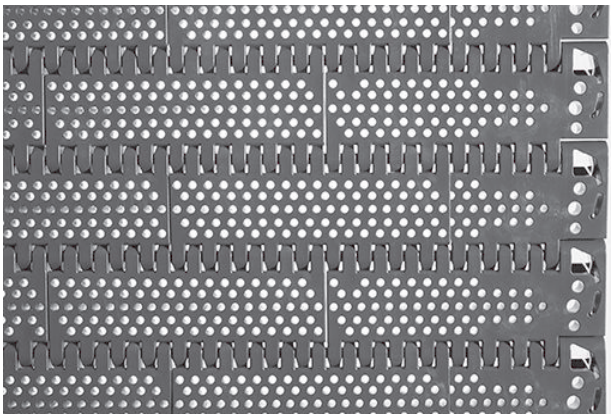
Round Hole Enhanced

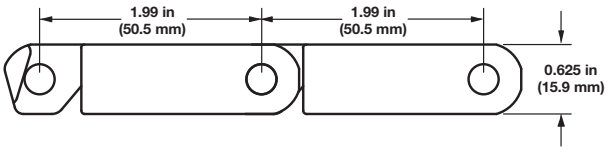
	in	mm
Pitch	1.99	50.5
Minimum Width	6	152.4
Width Increments	0.66	16.8
Opening Size	5/32 (0.156)	4
Open Area	20%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Enhanced design and hole pattern of S800 Perforated Flat Top.
- Improved hole pattern and more open hinge design provides better airflow and drainage.
- S888 sprocket design requires all sprockets to be retained in position on the drive and idle shaft.
- To maintain proper tracking, design conveyors to use tracking shoes or similar devices.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimum sprocket indent: 2.0 in (50 mm) to the sprocket edge.
- Maximum clearance between the sprocket and the retainer rings or collars: no greater than 0.125 in (3 mm) for all sprockets on the shafts.





Belt Data

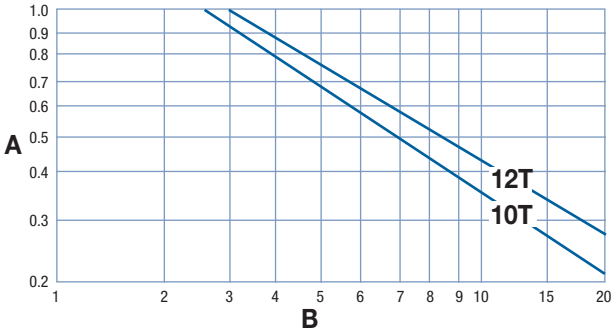
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	304 stainless steel	1,500	21,900	-50 to 200	-46 to 93	3.10	15.14
X-ray detectable acetal	Stainless steel	1,500	21,900	-50 to 200	-46 to 93	3.1	15.14

Sprocket and Support Quantity Reference							
Medium Slot, Round Hole Enhanced			Medium Slot SSL, Large Slot SSL			Wearstrips Medium Slot and Large Slot SSL	
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Belt Width Range[a]		Maximum Number of Sprockets Per Shaft[b]		
in	mm		in	mm		Carryway	Returnway
6	152	2	22.6-28.0	575-711	6	2	2
8	203	2	28.6-30.6	727-778	7	2	2
10	254	2	31.3-35.3	795-897	8	3	2
12	305	3	36.0-40.6	914-1,032	9	3	2
14	356	3	41.3-46.0	1,049-1,167	10	3	3
16	406	3	46.6-48.0	1,184-1,218	11	3	3
18	457	3	48.6-52.6	1,235-1,336	12	3	3
20	508	5	53.3-58.6	1,353-1,489	13	4	3
24	610	5	59.3-64.6	1,506-1,641	14	4	3
30	762	5	65.3-66.6	1,658-1,692	15	5	4
32	813	7	67.3-72.6	1,709-1,844	16	5	4
36	914	7	73.3-79.9	1861-2030	17	5	4
42	1,067	7	80.6-84.6	2,047-2,148	18	6	5
48	1,219	9	85.3-87.9	2,165-2,233	19	7	5
54	1,372	9	88.6-91.9	2,250-2,335	20	7	6
60	1,524	11	92.6-95.2	2,351-2,419	21	8	6
72	1,829	13	95.9-98.6	2,436-2,504	22	9	7
84	2,134	15	99.2-103.2	2,521-2,622	23	11	8
96	2,438	17	103.9-109.2	2,639-2,774	24	12	9
120	3,048	21	109.9-118.6	2,791-3,011	25	15	11
144	3,658	25	119.2-119.9	3,028-3,045	26	17	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing			To avoid sprocket interference with stainless steel links, see the sprocket installation instructions or belt maintenance and installation guidelines.			Maximum 12 in (305 mm) centerline spacing	

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.66 in (16.8 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] Lock all sprockets. Use appropriate locking collars to restrict axial movement.

Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Nylon Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.70%)	6.5	165	6.2	157	1.0	25	Available as a custom order.		50, 60, 70, 80, 90, 100	Available as a custom order.
12 (3.29%)	7.78	196	7.5	191	1.0	25			50, 60, 70, 80, 90, 100	50, 60, 70, 80, 90

- U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
- Lock all sprockets in place on the shaft.



Buildup Resistant Acetal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.89%)	6.5	165	6.2	157	1.5	38		2.5		60[a]

- Designed to work with the Round Hole Enhanced belt in freezer tunnel applications. Contact Intralox Customer Service before using in other applications.
- Ensure all sprockets are locked in place on the shaft.

[a] Available as standard 60-mm square bore or available with four retention notches.

Universal Sideguards			
Available Height		Available Materials	
in	mm		
2	51	Blue polypropylene	
3	76	Blue polypropylene	
4	102	Blue polypropylene	
6	152	Blue polypropylene	

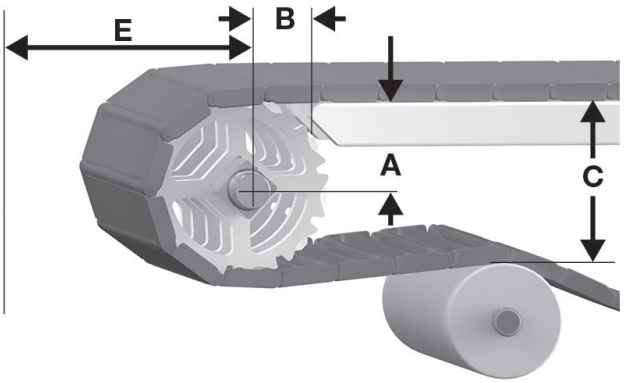
- Part of the Intralox EZ Clean product line.
- Fastens to belt with hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- Minimum indent at edges: 2.0 in (51 mm).
- Minimum back bend radius: 4.5 in (115 mm).

Intralox Belt Puller Set			
Single Belt Puller	U.S. Units	Metric Units	
Length	14.4 in	365.8 mm	
Width	4.2 in	106.7 mm	
Height	0.5 in	12.7 mm	
Weight	2 lb	0.9 kg	
Belt Puller Set			
Weight	6 lb	2.7 kg	

- Can be used in carryways and returnways to install, close, or open compatible belts.
- Improves worker safety.
- Reduces the number of people required to install or remove large or inclined belts.
- Reduces the risk of belt damage that can lead to foreign material contamination.
- Set includes two belt pullers and one Intralox ratchet strap.
- Solid metal construction with dedicated metal rod that locks into the belt puller.
- Etched QR code on the tool links to an instructional video.
- Compatible with S800, S888, and S1800 belts. For up-to-date compatibility information, contact Intralox Customer Service.

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 28: A, B, C, and E drive dimensions

S888 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
S888 Medium Slot, Medium Slot SSL, Large Slot SSL, Round Hole Enhanced										
6.5	165	10	2.77-2.925	70-74	3.00	76	6.5	165	3.61	92
7.7	196	12	3.42-3.55	87-90	3.00	76	7.9	201	4.24	108

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

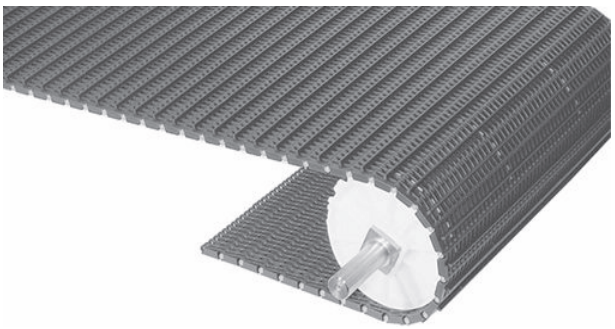
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S888 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

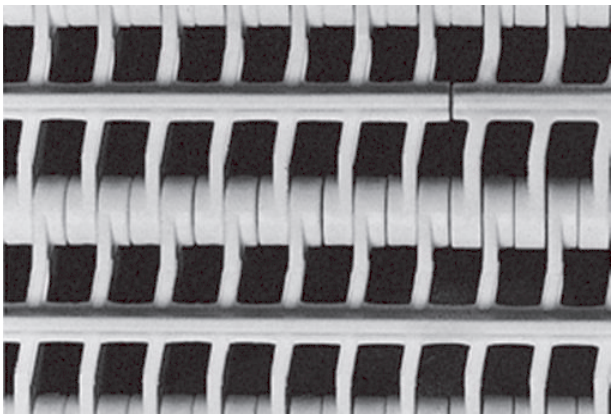
Open Grid

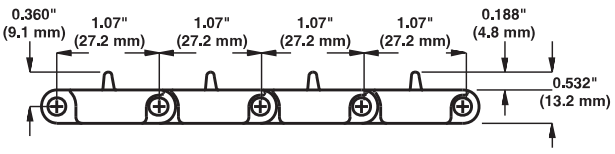
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area provides excellent drainage.
- Low-profile transverse ridges help move product up inclines and down declines.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Transverse ridge height: 0.188 in (4.8 mm).
- Normal ridge indent: 0.25 in (6.4 mm).





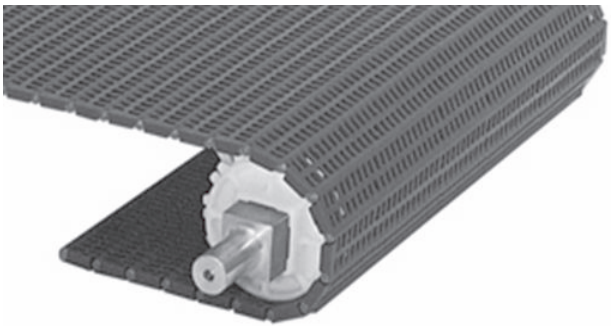
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.81	3.95
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	0.84	4.09
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.26	6.14
Acetal[a]	Polyethylene	1,000	14,600	-50 to 70	-46 to 21	1.26	6.14

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

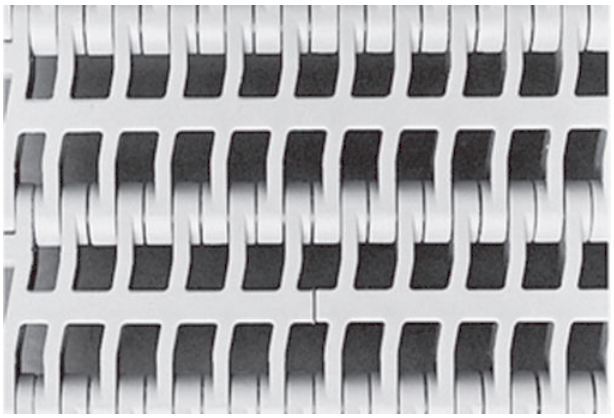
Flush Grid

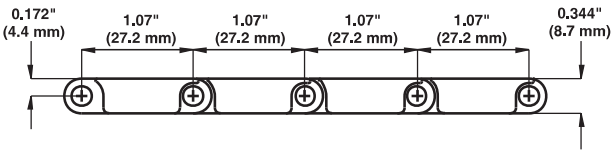
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with smooth upper surface and fully flush edges.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Provides excellent lateral movement of containers.
- Flights and sideguards are available.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.76	3.70
Enduralox polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.76	3.70
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	0.81	3.96
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.15	5.62
HSEC acetal	Polypropylene	800	11,700	34 to 200	1 to 93	1.15	5.62
Hi-Temp	Hi-Temp	1,200	17,500	70 to 400	21 to 204	1.08	5.27
FR TPES	Polypropylene	750	10,900	40 to 150	4 to 66	1.19	5.81
HR nylon	HR nylon	1,200	17,500	-50 to 240	-46 to 116	1.10	5.40
HHR nylon	HHR nylon	1,200	17,500	-50 to 310	-46 to 154	1.10	5.40
Acetal[a]	Polyethylene	1,000	14,600	-50 to 70	-46 to 21	1.15	5.62
Detectable polypropylene A22	Polypropylene	350	5,110	34 to 150	1 to 66	0.89	4.35

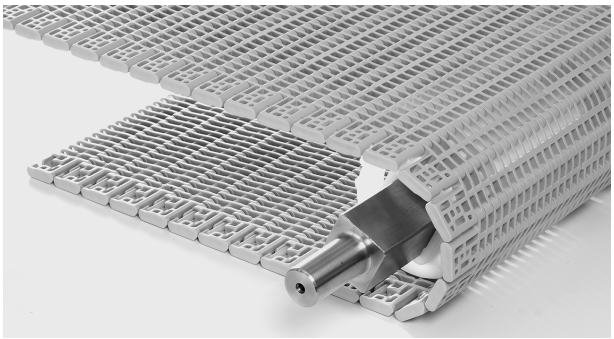
[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

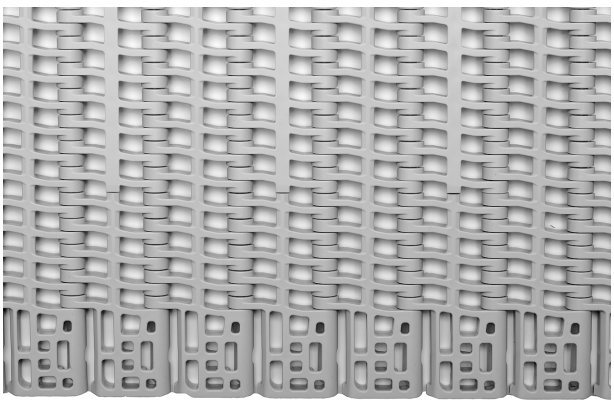
Flush Grid with Heavy-Duty Edge

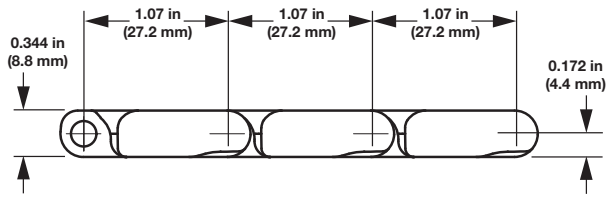
	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	118.4
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 x 0.28	6.1 x 7.1
Open Area	35%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with smooth upper surface and fully flush edges.
- Heavy-duty edge reduces catchpoints and increases belt lifespan.
- The combination of heavy-duty edge and unheaded rods inhibits rod migration caused by thermal expansion in microwave applications.
- Compatible with the Intralox Rod Remover.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.





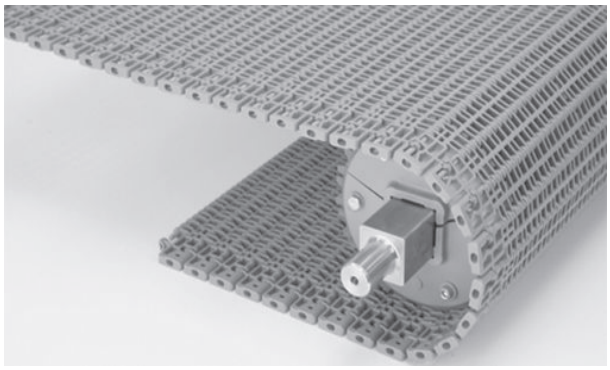


Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.76	3.71
Enduralox™ polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.76	3.71

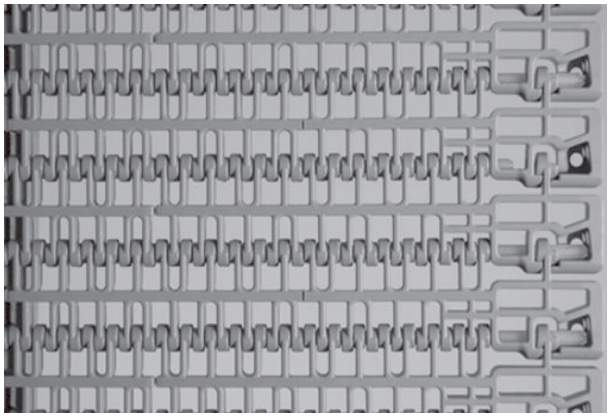
Open Flush Grid

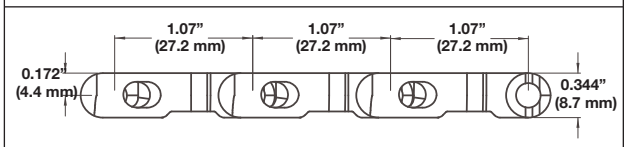
	in	mm
Pitch	1.07	27.2
Minimum Width	10	254
Width Increments (See *Product Notes*.)	1.0	25.4
Minimum Opening Size (approximate)	0.17 x 0.29	4.3 x 7.4
Maximum Opening Size (approximate)	0.28 x 0.29	7.1 x 7.4
Open Area	43%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with a smooth upper surface and fully flush edges.
- Flush edge accommodates special abrasion resistant nylon rod growth for belt widths that are 42 in (1066 mm) or narrower.
- Other width increments may be available. Contact Intralox Customer Service for more information.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- To accommodate the rod retention design, ensure that outer sprockets are indented 2.5 in (63.5 mm) from the edge of the belt to the centerline of the sprocket.
- Flights are available.



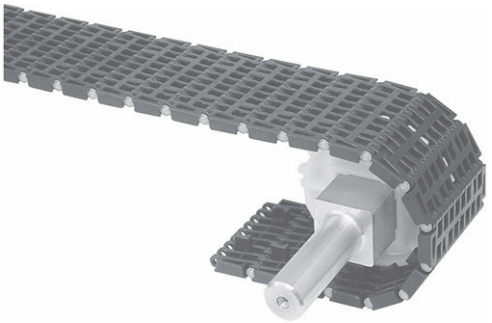


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.76	3.71
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.10	5.37
HR nylon	HR nylon	1,200	17,500	-50 to 240	-46 to 116	1.02	4.98
HHR nylon	HHR nylon	1,200	17,500	-50 to 310	-46 to 154	1.04	5.08

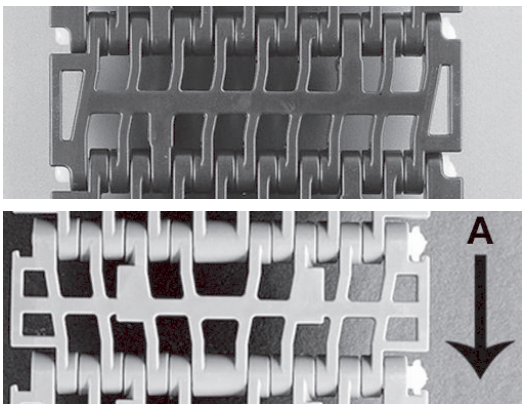
Mold to Width Flush Grid

	in	mm
Pitch	1.07	27.2
Molded Widths	3.25	83
	4.5	114
	7.5	191
	-	85
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not compatible with sprockets that have a pitch diameter smaller than the 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- Sprockets required:
  - 85-mm belt: one sprocket
  - 4.5 in (114 mm) belt: up to three sprockets
  - 7.5 in (191 mm) belt: up to five sprockets
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Available in 10 ft (3 m) increments.



A Arrow indicates preferred run direction

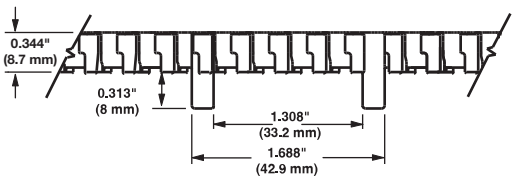


Figure 29: Series 900 Flush Grid Mold to Width

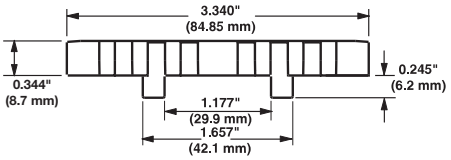


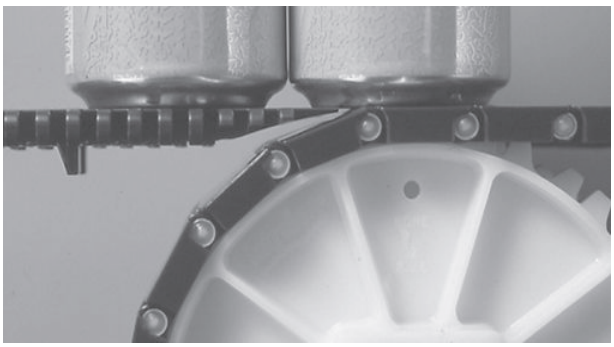
Figure 30: Series 900 Flush Grid 85 mm Mold to Width

Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
in	mm			lbf	N	°F	°C	lb/ft	kg/m
3.25	83	Polypropylene	Nylon	130	578	34 to 220	1 to 104	0.31	0.46
3.25	83	Acetal	Nylon	250	1,110	-50 to 200	-46 to 93	0.42	0.62
4.5	114	Polypropylene	Nylon	263	1,170	34 to 220	1 to 104	0.39	0.58
4.5	114	Acetal	Nylon	555	2,470	-50 to 200	-46 to 93	0.54	0.80
7.5	191	Polypropylene	Nylon	438	1,950	34 to 220	1 to 104	0.59	0.88
7.5	191	Acetal	Nylon	800	3,560	-50 to 200	-46 to 93	0.85	1.26
	85	Acetal	Nylon	275	1,220	-50 to 200	-46 to 93	0.38	0.57

ONEPIECE™ Live Transfer Flush Grid

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	119
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Transfer edge is an integral part of this belt.
- Nylon rods provide superior wear resistance.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See 90-Degree Container Transfers for more information.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- For custom belt widths, contact Intralox Customer Service.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- For belt-strength calculations, subtract 1.5 in (38 mm) from the actual belt width.
- Also available in a 4.7 in (119 mm) wide single-tracking tab belt and 6 in (152 mm) wide double-tracking tab belt.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks, ensuring proper belt alignment.
- Available in 10 ft (3 m) increments.

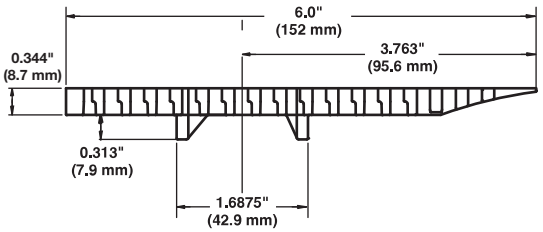


Figure 31: 6.0 in (152 mm) double tracking tab belt

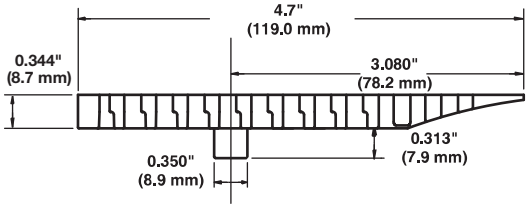


Figure 32: 4.7 in (119 mm) single tracking tab belt

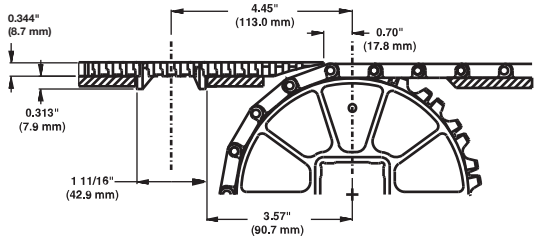


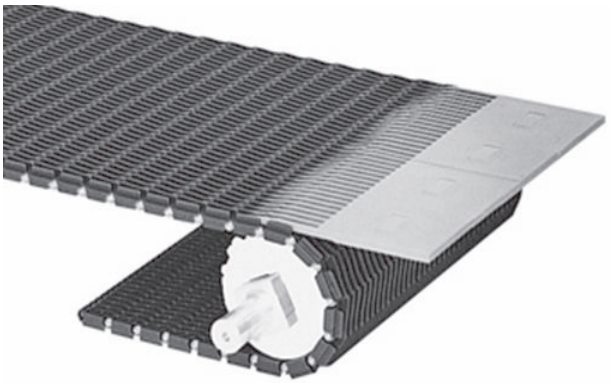
Figure 33: Installation dimensions

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	700	10,200	34 to 220	1 to 104	0.93	4.54
Acetal	Nylon	1,480	21,600	-50 to 200	-46 to 93	1.15	5.62
FR TPES	Nylon	1,000	14,600	40 to 150	4 to 66	1.63	7.95

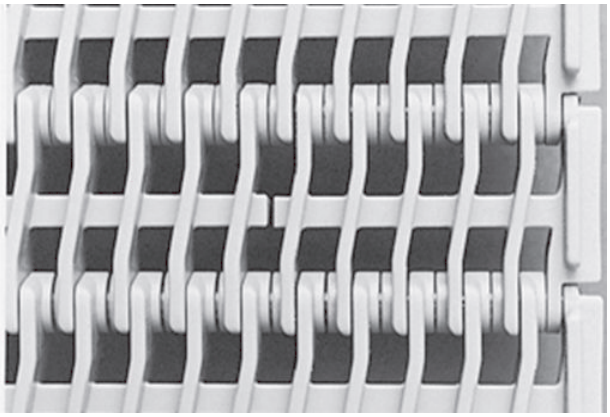
Raised Rib

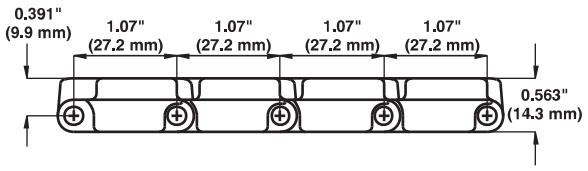
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Product Contact Area	35%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Use HR nylon in dry, elevated-temperature applications.
- Detailed material information is provided at the beginning of Product Line.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Raised ribs extend 3/16 in (4.7 mm) above basic module, with fully flush edges.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.07	5.21
Enduralox polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.07	5.21
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	1.14	5.57
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.68	8.19
HSEC acetal	Polypropylene	800	11,700	34 to 200	1 to 93	1.68	8.19
HHR nylon	HHR Nylon	1,200	17,500	-50 to 310	-46 to 154	1.60	7.80
Acetal[a]	Polyethylene	1,000	14,600	-50 to 70	-46 to 21	1.68	8.19

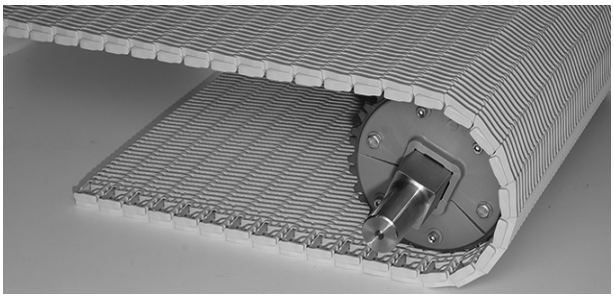
[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

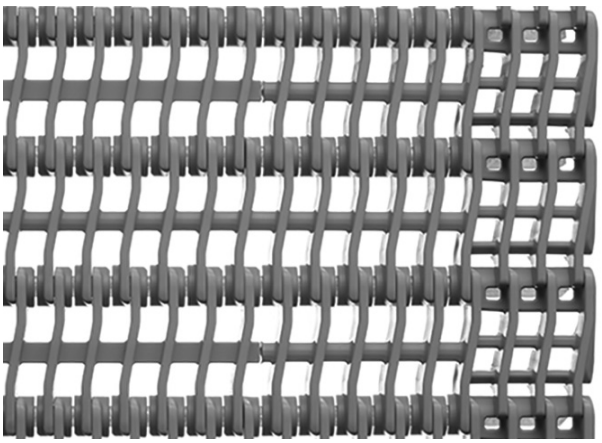
Raised Rib with Heavy-Duty Edge

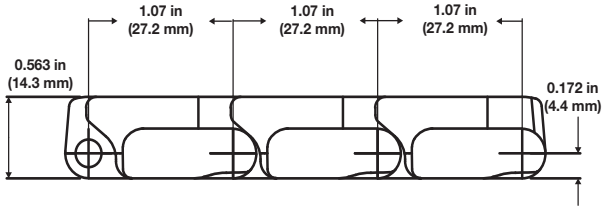
	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	118.4
Width Increments	0.33	8.4
Opening Size (approx.)	0.24 x 0.28	6.1 x 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- The combination of a heavy-duty edge and unheaded rods inhibits rod migration caused by thermal expansion in microwave applications.
- Compatible with Intralox Rod Remover.
- Can be used with finger transfer plates to eliminate product tipping and hang-ups.
- Raised ribs extend 3/16 in (4.7 mm) above basic module, with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.





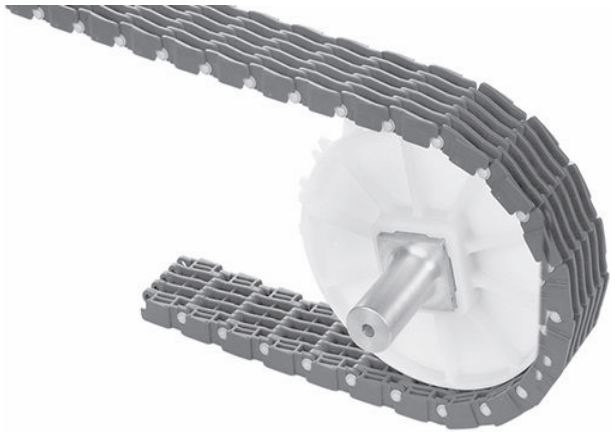


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.07	5.22
Enduralox polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.07	5.22

Mold to Width Raised Rib

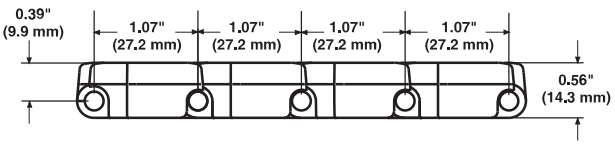
	in	mm
Pitch	1.07	27.2
Molded Widths (Blue acetal)	1.1	29
	1.5	37
	1.8	46
	2.2	55
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38% - 40%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Raised ribs span the entire belt width, increasing container stability.
- Nylon rodlets provide longer service life.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Supports both small and larger products, allowing easy product changes.
- The 1.8 in (46 mm) belt is also available in grey polypropylene for applications where higher friction is needed.
- Available in 10 ft (3 m) increments.





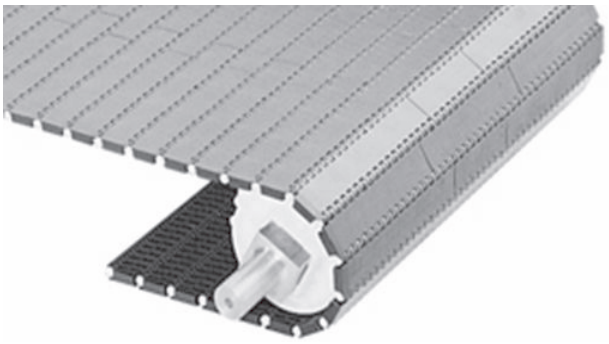
Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
in	mm			lbf	N	°F	°C	lb/ft	kg/m
1.1	29	Acetal	Nylon	140	623	-50 to 200	-46 to 93	0.19	0.29
1.5	37	Acetal	Nylon	200	890	-50 to 200	-46 to 93	0.23	0.35
1.8	46	Acetal	Nylon	230	1,020	-50 to 200	-46 to 93	0.29	0.43
1.8	46	Polypropylene	Nylon	90	400	34 to 220	1 to 104	0.19	0.28
2.2	56	Acetal	Nylon	200[a]	890[a]	-50 to 200	-46 to 93	0.34	0.50

[a] 270 lbf (1,200 N) for 2.2 in (55 mm) with two (2) sprockets.

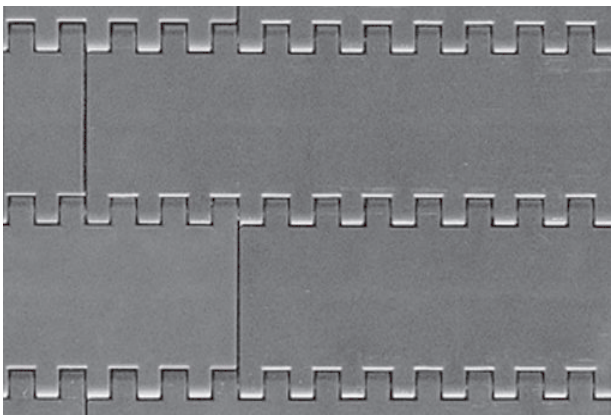
Flat Top

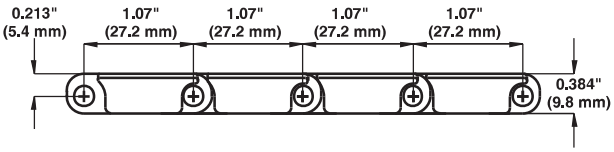
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Use HR nylon in dry, elevated-temperature applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ideal for handling glass and other containers.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.96	4.69
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	1.01	4.95
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.50	7.30
HSEC acetal	Polypropylene	800	11,700	34 to 200	1 to 93	1.50	7.30
HR nylon	HR nylon	1,200	17,500	-50 to 240	-46 to 116	1.40	6.80
HHR nylon	HHR nylon	1,200	17,500	-50 to 310	-46 to 154	1.40	6.80
Acetal[a]	Polyethylene	1,000	14,600	-50 to 70	-46 to 21	1.50	7.30
Detectable polypropylene A22	Polypropylene	450	6,570	34 to 150	1 to 66	2.21	10.79

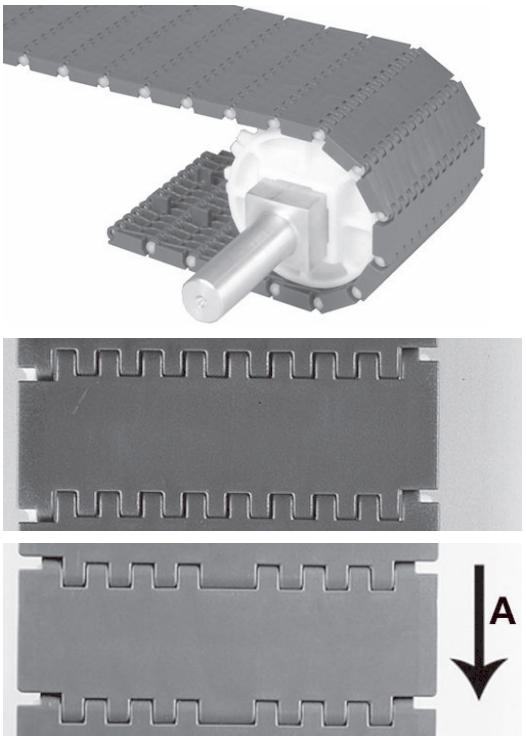
[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Mold to Width Flat Top

	in	mm
Pitch	1.07	27.2
Molded Widths	3.25	83
	4.5	114
	7.5	191
	-	85
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- One sprocket can be placed on the 3.25 in (83 mm) and 85-mm belt. Up to three sprockets can be placed on the 4.5 in (114 mm) belt. Up to five sprockets can be placed on the 7.5 in (191 mm) belt.
- Available in 10 ft (3 m) increments.



A preferred run direction

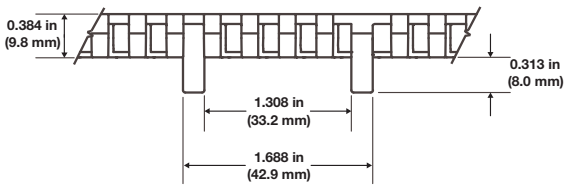


Figure 34: S900 Flat Top Mold to Width

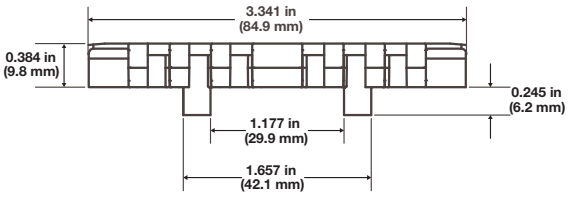


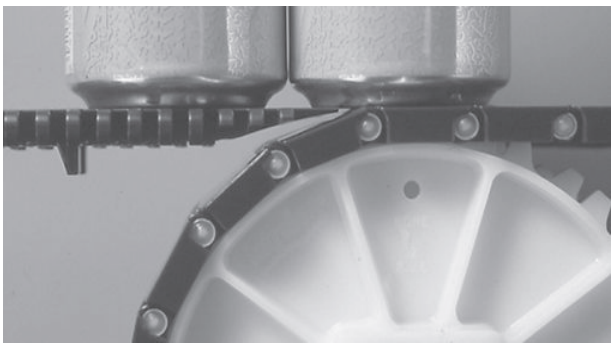
Figure 35: S900 Flat Top 85 mm Mold to Width

Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
in	mm			lbf	N	°F	°C	lb/ft	kg/m
3.25	83	Polypropylene	Nylon	130	578	34 to 220	1 to 104	0.37	0.55
3.25	83	Acetal	Nylon	250	1,110	-50 to 200	-46 to 93	0.52	0.77
4.5	114	Polypropylene	Nylon	263	1,170	34 to 220	1 to 104	0.52	0.77
4.5	114	Acetal	Nylon	555	2,470	-50 to 200	-46 to 93	0.74	1.10
7.5	191	Polypropylene	Nylon	438	1,950	34 to 220	1 to 104	0.83	1.24
7.5	191	Acetal	Nylon	800	3,560	-50 to 200	-46 to 93	1.18	1.76
	85	Acetal	Nylon	500	2,220	-50 to 200	-46 to 93	0.50	0.74

ONEPIECE™ Live Transfer Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	119
Width Increments	0.33	8.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Transfer edge is an integral part of the belt.
- Nylon rods provide superior wear resistance.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See 90-Degree Container Transfers for more information.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- For custom belt widths, contact Intralox Customer Service.
- Available in 10 ft (3 m) increments.
- Also available in a 4.7 in (119 mm) wide single tracking tab belt and 6 in (152 mm) wide double tracking tab belt.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks ensuring proper belt alignment.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.

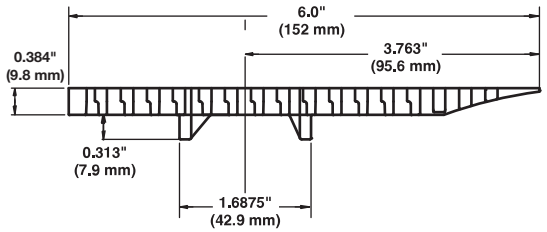


Figure 36: 6.0 in (152 mm) double tracking tab belt

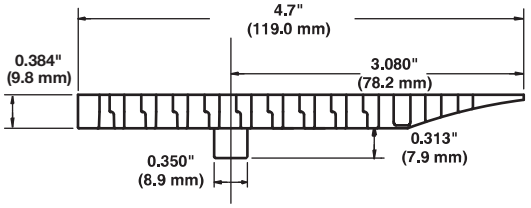
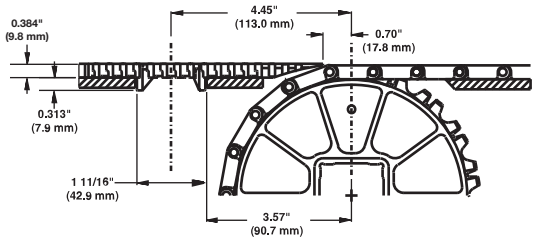


Figure 37: 4.7 in (119 mm) single tracking tab belt

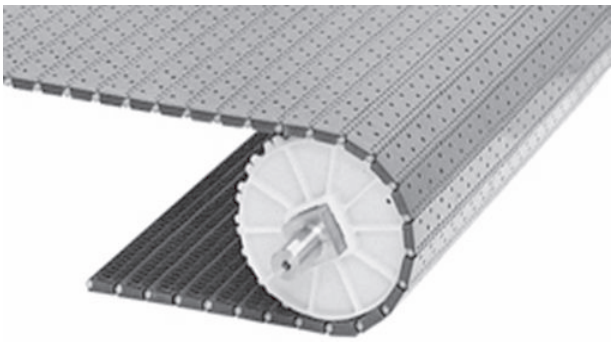


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	700	10,200	34 to 220	1 to 104	0.93	4.54
Acetal	Nylon	1,480	21,600	-50 to 200	-46 to 93	1.50	7.30

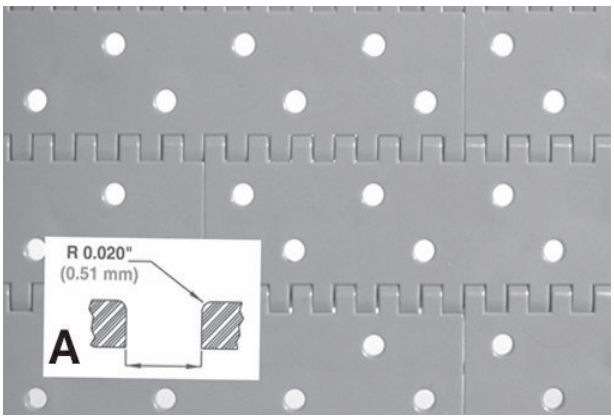
Perforated Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size	See *Product Notes*.	
Open Area	See *Product Notes*.	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

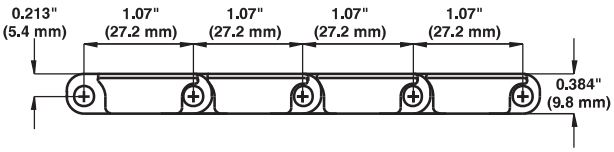


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Hole sizes include 3% open area at the hinge.
- Holes have a radiused top edge, allowing quiet operation and good vacuum performance.
- Other hole dimensions and patterns can be created by drilling S900 Flat Top.
- HR nylon belts use short rodlets to hold the main hinge rod in place and are made from the same material as the main rod.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Use stainless steel split sprockets in elevated-temperatures.
- Designed for vacuum transfer applications, with a scalloped underside to reduce carryway blockage.
- Available hole sizes:
  - Ø 0.125 in (3.2 mm) - 5% open area
  - Ø 0.15625 in (4.0 mm) - 6% open area
  - Ø 0.1875 in (4.8 mm) - 8% open area



A molded hole detail



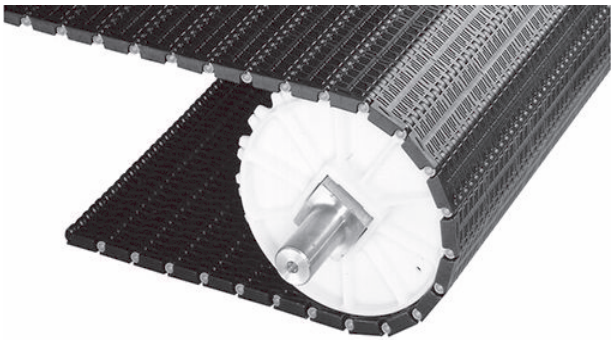
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass 1/8 in		Belt Mass 5/32 in		Belt Mass 3/16 in	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²	lb/ft²	kg/m²	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	–	–	0.93	4.54	–	–
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	–	–	0.98	4.79	–	–
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.48	7.23	1.46	7.11	1.43	6.98
HSEC acetal	Polypropylene	800	11,700	34 to 200	1 to 93	–	–	1.46	7.11	–	–
FR TPES	Polypropylene	750	10,900	40 to 150	4 to 66	–	–	1.59	7.76	–	–
HR nylon	HR Nylon	1,200	17,500	-50 to 240	-46 to 116	–	–	1.40	6.80	–	–
Acetal[a]	Polyethylene	1,000	14,600	-50 to 70	-46 to 21	1.48	7.23	1.46	7.11	1.43	6.98
UVFR	UVFR	700	10,200	-34 to 200	1 to 93	2.04	9.96	2.04	9.96	2.04	9.96

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating. 1/8 in (3.2 mm) and 3/16 in (4.8 mm) hole sizes are available in acetal only.

Mesh Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.05 × 0.31	1.3 × 7.9
Open Area	24%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ideal for fruit and vegetable processing, especially for stemmed products and dewatering applications.

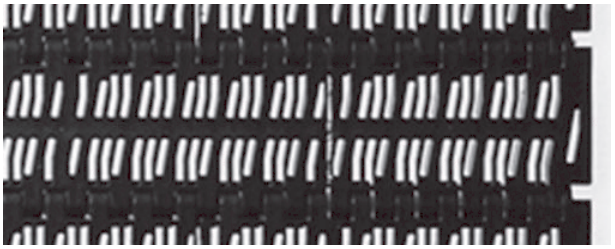


Figure 38: Top surface

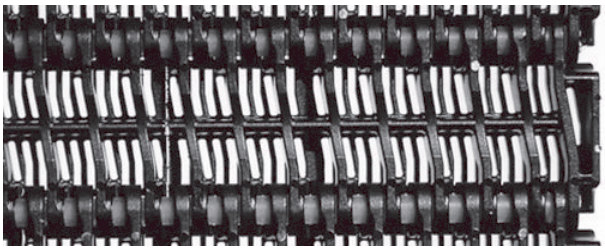


Figure 39: Underside surface

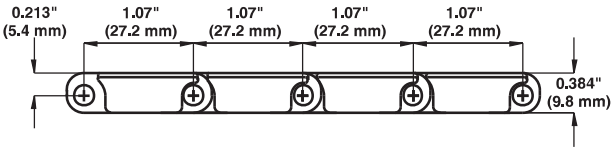


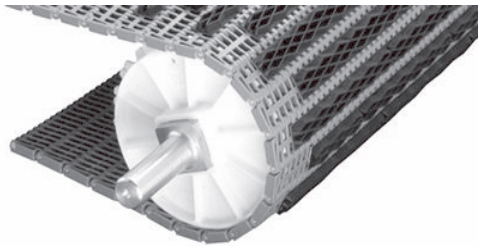
Figure 40: Dimensions

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,480	21,600	34 to 200	1 to 93	1.39	6.79
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.93	4.55
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	0.99	4.84

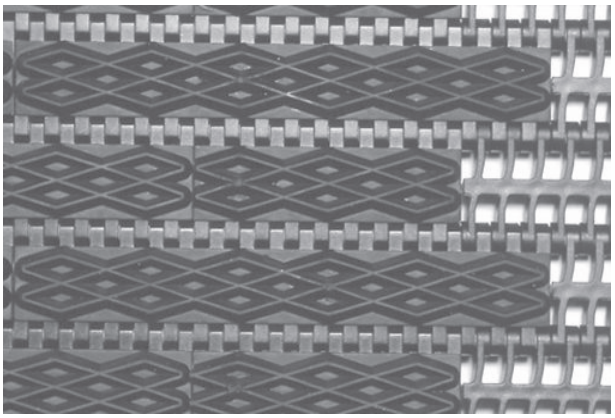
Diamond Friction Top

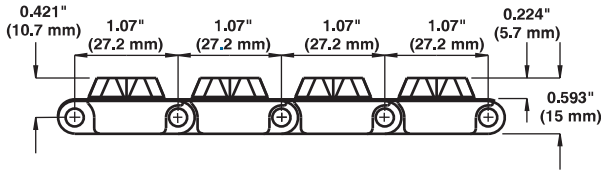
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber, white PP with white rubber, and natural PE with white rubber.
- Abrasion resistant rods are recommended.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in (43 mm).





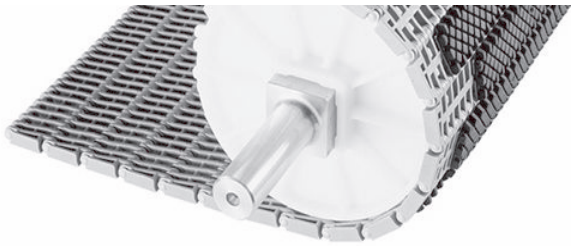
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Polypropylene	1,000	14,600	34 to 150	1 to 66	1.40	6.83	45 Shore A	b	
Polypropylene	White/white	Polypropylene	1,000	14,600	34 to 150	1 to 66	1.40	6.83	56 Shore A	b	c
Polyethylene	Natural/white	Polyethylene	350	5,110	-50 to 120	-46 to 49	1.50	7.32	56 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

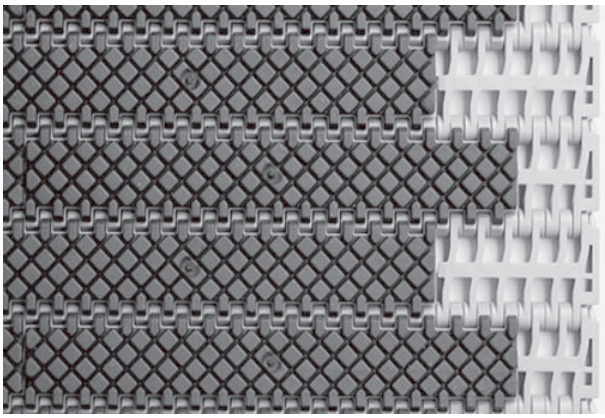
Square Friction Top

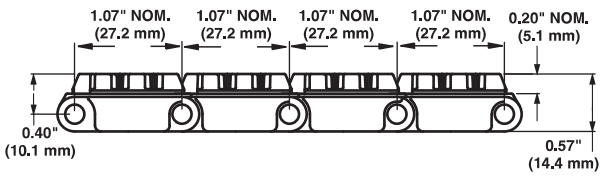
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber and white PP with white rubber.
- Abrasion resistant rods are recommended.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in and (43 mm).





Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Polypropylene	1,000	14,600	34 to 150	1 to 66	1.50	7.32	45 Shore A	b	
Polypropylene	White/white	Polypropylene	1,000	14,600	34 to 150	1 to 66	1.50	7.32	56 Shore A	b	c

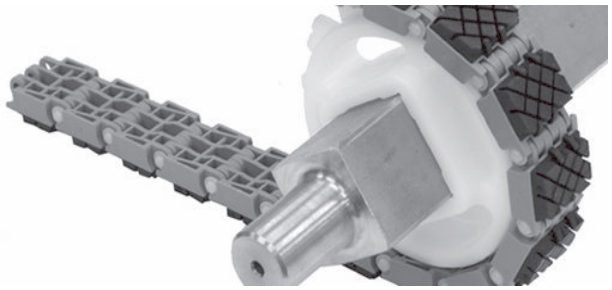
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

Mold to Width 29 mm Square Friction Top

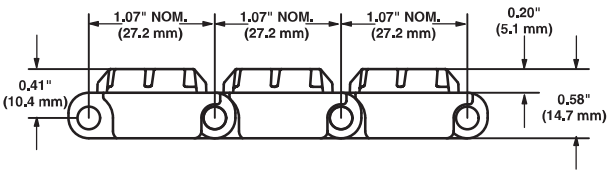
	in	mm
Pitch	1.07	27.2
Molded Width	1.1	29
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber, grey acetal with black rubber, and blue acetal with black rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.





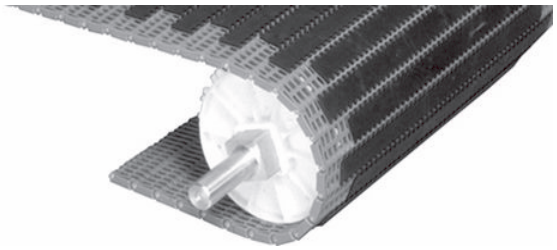
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf	N	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	65	289	34 to 150	1 to 66	0.17	0.25	45 Shore A	b	
Acetal	Grey/black	Nylon	140	623	-10 to 130	-23 to 54	0.21	0.31	54 Shore A		
Acetal	Blue/black	Nylon	140	623	-10 to 130	-23 to 54	0.21	0.31	54 Shore A		

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

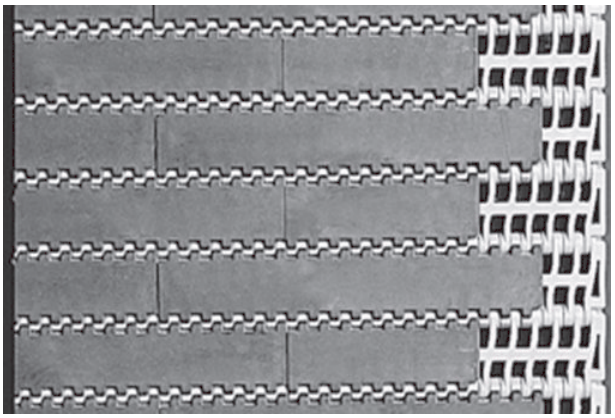
Flat Friction Top

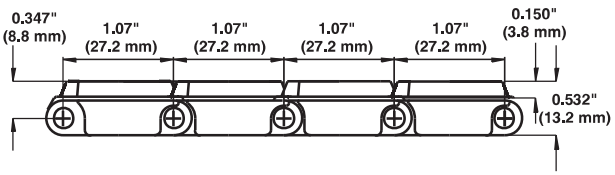
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber and white PP with white rubber.
- Abrasion resistant rods are recommended.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in (43 mm).





Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Polypropylene	1,000	14,600	34 to 150	1 to 66	1.40	6.83	45 Shore A	b	
Polypropylene	White/white	Polypropylene	1,000	14,600	34 to 150	1 to 66	1.40	6.83	56 Shore A	b	c
Polypropylene	High-Performance FT blue/blue	Polypropylene	1,000	14,600	34 to 212	1 to 100	1.40	6.83	59 Shore A	b	c

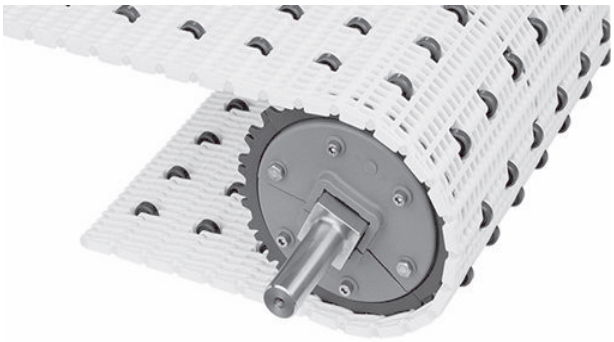
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

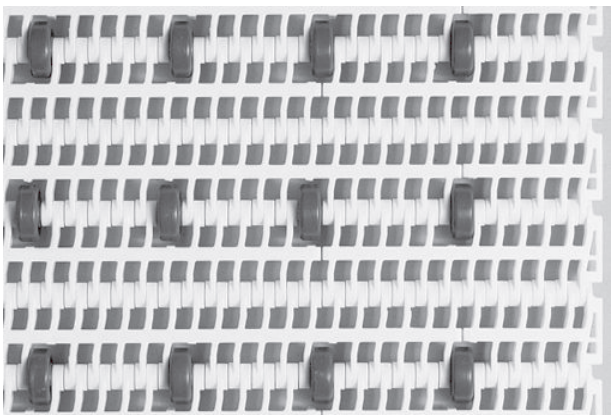
Flush Grid with Insert Rollers

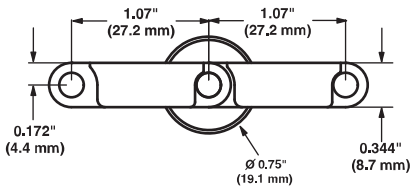
	in	mm
Pitch	1.07	27.2
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For applications where low back-pressure accumulation is required.
- Product accumulation load is 5% to 10% of product weight.
- For low back pressure applications, place wearstrips between rollers. For driven applications, place wearstrip directly under rollers.
- Do not place sprockets inline with rollers.
- Standard roller diameter: 0.75 in (19.05 mm). Other roller diameters are available. Contact Intralox Customer Service for more information.
- Standard roller spacing across belt width: 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm) inline or staggered.
- Standard roller spacing along belt length: 1.07 in (27.2 mm), 2.14 in (54.4 mm).
- For custom roller-placement options, contact Intralox Customer Service.
- Minimum roller indent: 1.0 in (25.4 mm).



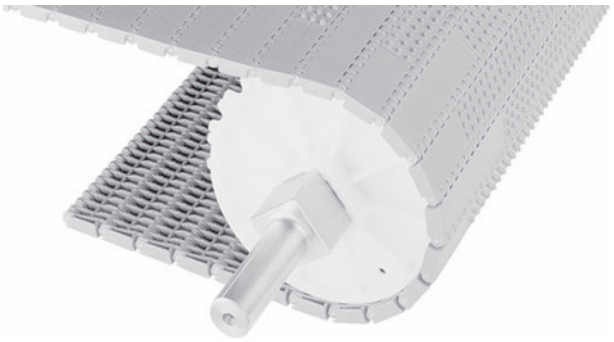


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength – Roller Width Spacing 2 in lbf/ft	51 mm N/m	3 in lbf/ft	76 mm N/m	4 in lbf/ft	102 mm N/m	Temperature Range (continuous) °F	°C	Belt Mass lb/ft²	kg/m²
Polypropylene	Polypropylene	490	7,150	550	8,030	590	8,610	34 to 220	1 to 104	0.76	3.71
Acetal	Polypropylene	1,030	15,000	1,170	17,100	1,240	18,100	34 to 200	1 to 93	1.15	5.61

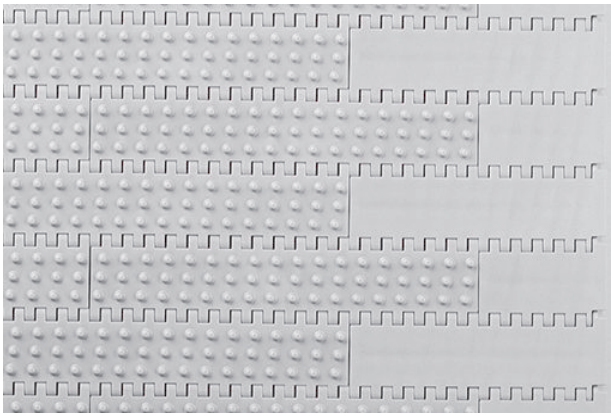
Nub Top

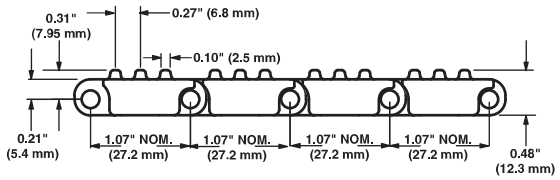
	in	mm
Pitch	1.07	27.2
Minimum Width	10	254
Width Increments	0.33	8.4
Open Area	0%	
Product Contact Area	7%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ideal for batch-off applications.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).





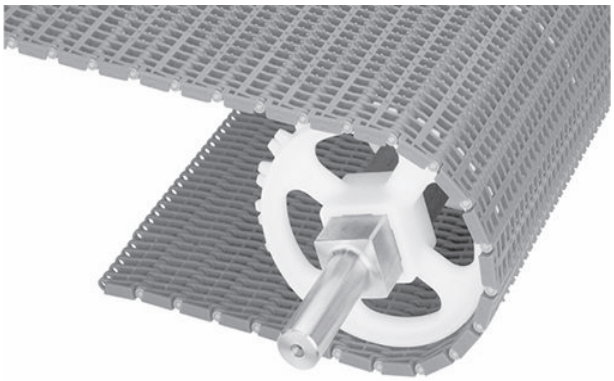
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.98	4.78

[a] When using steel sprockets, the belt strength for polyethylene is 240 lbf/ft (3,500 N/m). Contact Intralox Customer Service for availability of polyurethane sprockets.

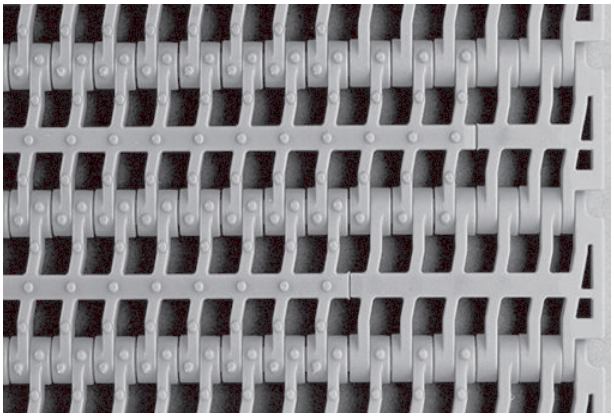
Flush Grid Nub Top

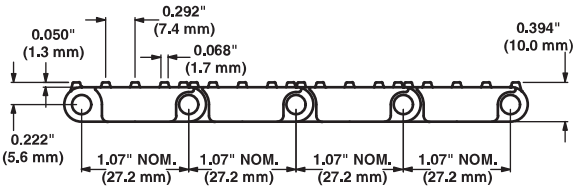
	in	mm
Pitch	1.07	27.2
Minimum Width	6	152
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Product Contact Area	3%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Built with Flush Grid edge modules.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. For information about friction values between product and belt, contact Intralox Customer Service.
- Can only be used with S900 Flush Grid base flights.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 2 in (51 mm) pattern.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.80	3.91

[a] When using steel sprockets, the belt strength for polyethylene is 240 lbf/ft (3,500 N/m).

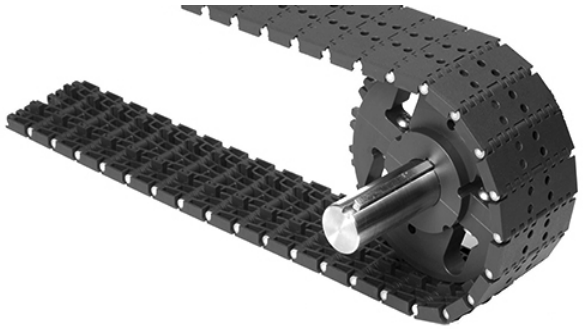
SERIES 900

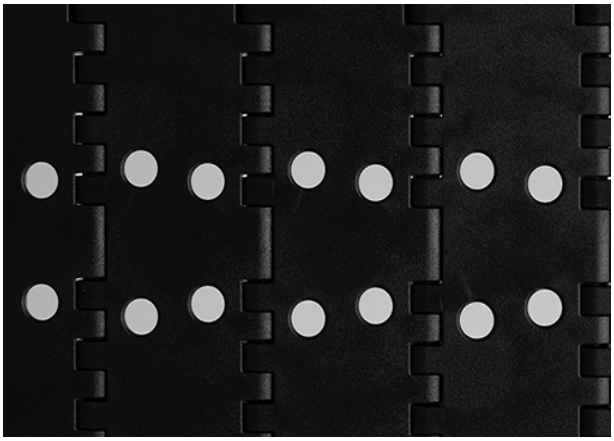
Mold to Width Flat Top with Holes

	in	mm
Pitch	1.07	27.2
Molded Widths	3.35	85
	4.5	114
Open Area	See *Product Notes*.	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Holes have a chamfered top edge allowing quiet operation and good vacuum performance.
- Rod material is abrasion resistant.
- HHR nylon belt material has a UL94 flammability rating of V2, appropriate for elevated temperature applications, such as pin strippers and light testers.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Use a nylon, machined, split sprocket in high-speed vacuum applications.
- Split sprocket is available for easy installation.
- Available in 10 ft (3 m) increments.
- Belt has 3% open area at the hinges and 3% to 4% open area at the holes.
- Hole diameter: 0.217 in (5.51 mm) on the 3.35-in (85-mm) belt; 0.219 in (5.56 mm) on the 4.5-in (114-mm) belt.





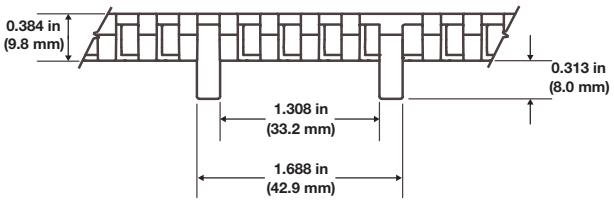


Figure 41: S900 Flat Top 4.5 in Mold to Width

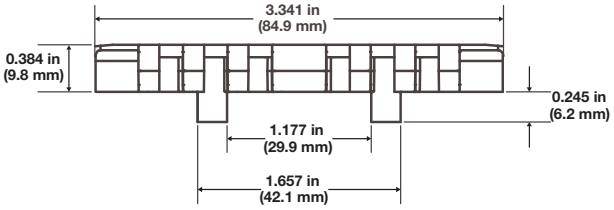


Figure 42: S900 Flat Top 85 mm Mold to Width

Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
in	mm			lbf	N	°F	°C	lb/ft	kg/m
3.35	85	HHR nylon	Nylon	220	979	-50 to 310	-46 to 154	0.41	0.61
4.5	114	HHR nylon	Nylon	450	2,000	-50 to 310	-46 to 154	0.53	0.79

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway[c]
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1,067	11	8	5
48	1,219	13	9	5
54	1,372	15	10	6
60	1,524	15	11	6
72	1,829	19	13	7
84	2,134	21	15	8
96	2,438	25	17	9
120	3,048	31	21	11
144	3,658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[d]			Maximum 6 in (152 mm) centerline spacing.	Maximum 12 in (305 mm) centerline spacing.

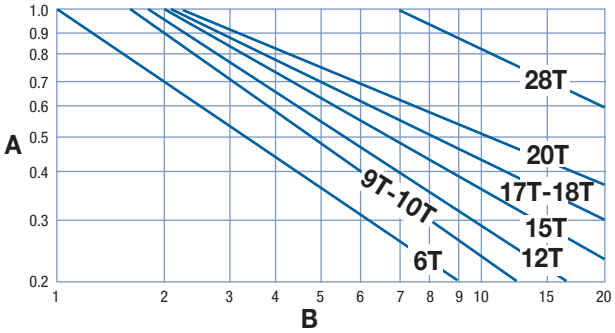
[a] If your belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range listed. Belts are available in 0.33 in (8.4 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] For Friction Top applications, use caution and contact Intralox Customer Service.

[d] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

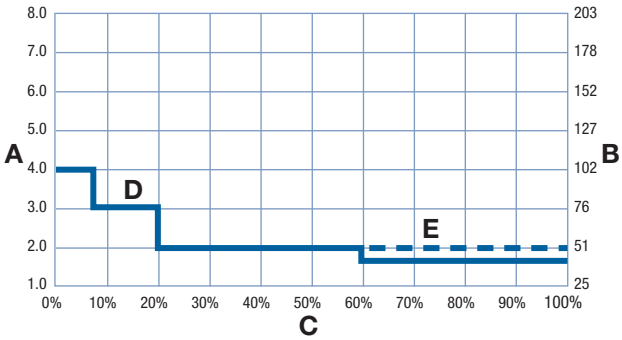
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed (V) by the shaft centerline distance (L). The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

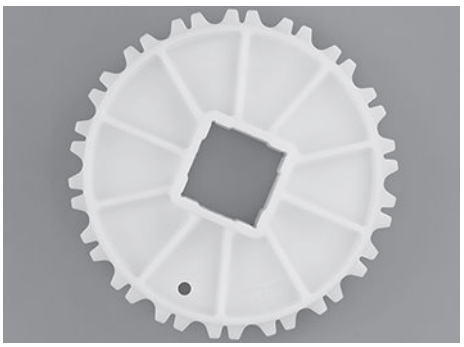
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: Flush Grid and Raised Rib
E dashed line: Open Flush Grid

Molded Sprocket[a]

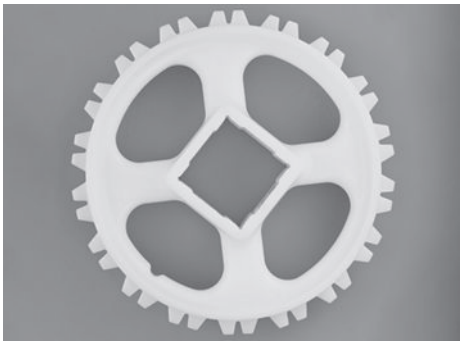
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm
6 (13.40%)	2.1[c]	53[c]	2.2	56	0.75	19		1.0		25
9 (6.03%)	3.1	79	3.2	81	1.0	25	1	1.0, 1.5	25	25, 40
10 (4.89%)	3.5	89	3.6	91	0.75	19		1.0, 1.5		40
12 (3.41%)	4.1	104	4.3	109	1.5	38	1 to 1-1/2, 1-15/16 to 2-3/16	1.5	25 to 40, 50 to 55	40
17 (1.70%)	5.8	147	5.9	150	1.5	38	1-3/16 to 1-1/2		30 to 40	
18 (1.52%)	6.1	155	6.3	160	1.5, 1.0	38, 25	1 to 11/2, 1-15/16, 2-3/16	1.5, 2.5	25 to 40, 50 to 55	40, 60, 65
20 (1.23%)	6.8	173	7.0	178	1.5	38	1 to 1-1/2, 1-15/16 to 2-3/16	1.5, 2.5	25 to 40, 50 to 55	40, 60, 65



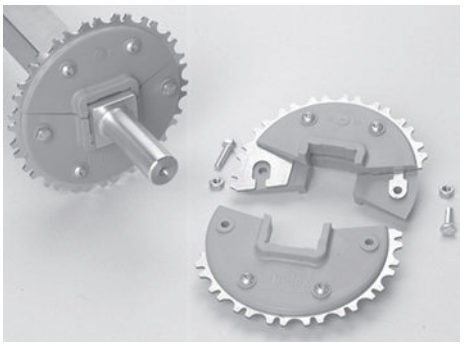
[a] When using 1.5 in (40 mm) bore polyurethane sprockets, the belt strength for belts rated over 650 lbf/ft (9,490 N/m) is de-rated to 650 lbf/ft (9,490 N/m). When using 2.5 in (60 mm) bore polyurethane sprockets, the belt strength for belts rated over 1,100 lbf/ft (16,100 N/m) is de-rated to 1,100 lbf/ft (16,100 N/m. All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

[c] For more information on retaining the 2.1 in (53 mm) pitch diameter sprocket, see Retainer Rings and Center Sprocket Offset.

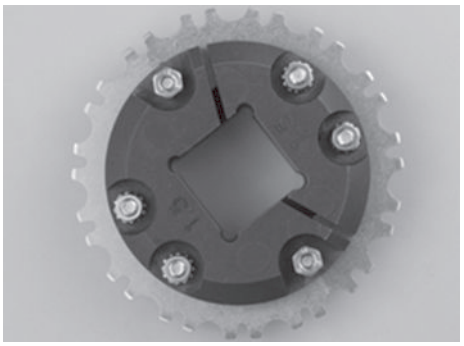
EZ Clean™ Sprocket[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	4.1	104	4.3	109	1.5	38		1.5		40	
18 (1.52%)	6.1	155	6.3	160	1.5	38		1.5		40	

[a] When using when using 1.5 in (40 mm) bore polyurethane sprockets, the belt strength for belts rated over 650 lbf/ft (9,490 N/m) is de-rated to 650 lbf/ft (9,490 N/m). When using when using 2.5 in (60 mm) bore polyurethane sprockets, the belt strength for belts rated over 1,100 lbf/ft (16,100 N/m) is de-rated to 1,100 lbf/ft (16,100 N/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

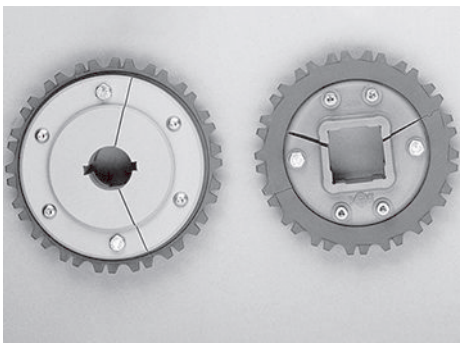
Split Metal Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
10 (4.89%)	3.5	89	3.6	91	1.5	38		1.5		40	
12 (3.41%)	4.1	104	4.3	109	1.5	38		1.5		40	
15 (2.19%)	5.1	130	5.3	135	1.5	38	1-3/16, 1-1/4	1.5	30, 40		
17 (1.70%)	5.8	147	6.1	155	1.5	38			40	40	
18 (1.52%)	6.1	155	6.3	160	1.5	38	1-1/4, 1-1/2	1.5, 2.5		40, 60	
20 (1.23%)	6.8	173	7.0	178	1.5	38	1-1/4	1.5, 2.5		40, 60	
28 (0.63%)	9.7	246	9.7	246	1.5	38				60	

[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

Split Metal with Polyurethane (FDA) Joining Plates Reduced Clearance Sprocket

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
15 (2.19%)	5.1	130	5.3	135	1.5	38		1.5		40	
17 (1.70%)	5.8	147	6.1	155	1.5	38				40	
18 (1.52%)	6.1	155	6.3	160	1.5	38		1.5, 2.5		40, 60	
20 (1.23%)	6.8	173	7.0	178	1.5	38		1.5, 2.5		40	
28 (0.63%)	9.7	246	9.7	246	1.5	38		2.5		60	

Molded Tooth Plate Split Glass-Filled Nylon Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
15 (2.19%)	5.1	130	5.3	135	1.5	38	1, 1-3/16	1.5	30, 40	40	
17 (1.70%)	5.8	147	6.1	155	1.5	38			30, 40	40	
18 (1.52%)	6.1	155	6.3	160	1.5	38	1-1/4, 1-1/2	1.5, 2.5		40, 60	
20 (1.23%)	6.8	173	7.0	178	1.5	38	1-1/4	1.5, 2.5		40, 60	

[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

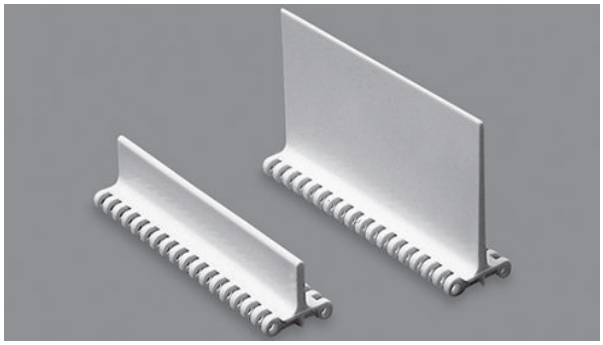
Nylon Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
18 (1.52%)	6.2	157	6.4	163	1.5	38			30, 40		

Flat Top Base Flights (Streamline)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene, acetal
2	51	
3	76	

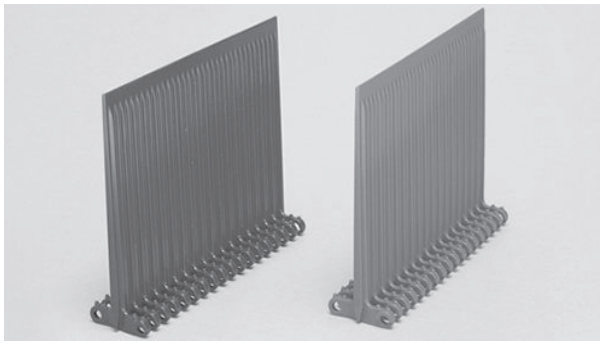
- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.7 in (17.8 mm).



Flush Grid Nub Top Base Flights (Double No-Cling)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, acetal

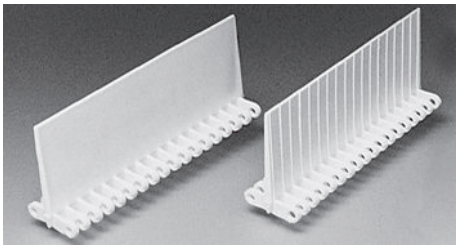
- No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.7 in (17.8 mm).



Flush Grid Base Flights (Streamline/No-Cling)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene, acetal, HR HHR nylon, HR nylon
2	51	

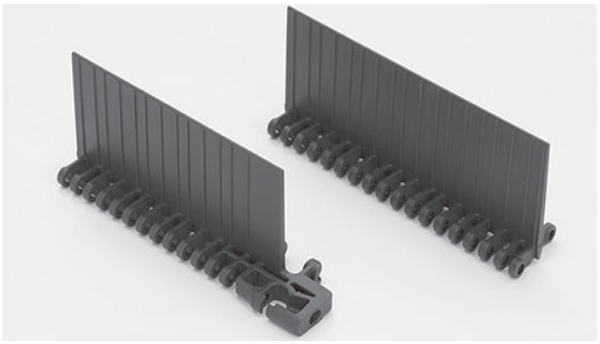
- Streamline/No-Cling flights are smooth on one side and vertically ribbed on one side.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.7 in (17.8 mm).



Open Flush Grid, Flush Edge Base Flights (No-Cling)

Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, HR nylon, HHR nylon

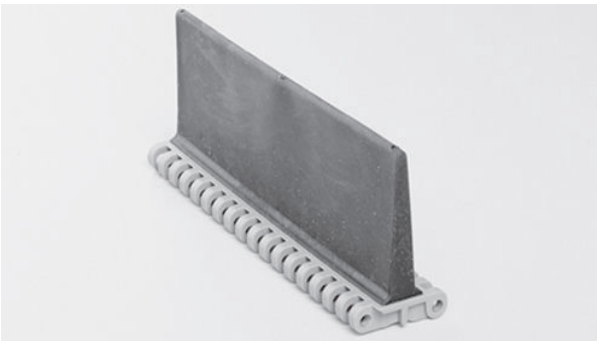
- Flight is ribbed vertically (No-Cling) on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Flight is molded with a 1 in (25 mm) indent. Can be machined to any indent between 1 in (25 mm) and 3 in (76 mm).



Flat Top Base Flights (Streamline Rubber)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene
2	51	
3	76	

Contact Intralox Customer Service for more information.



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal, HR nylon, HHR nylon

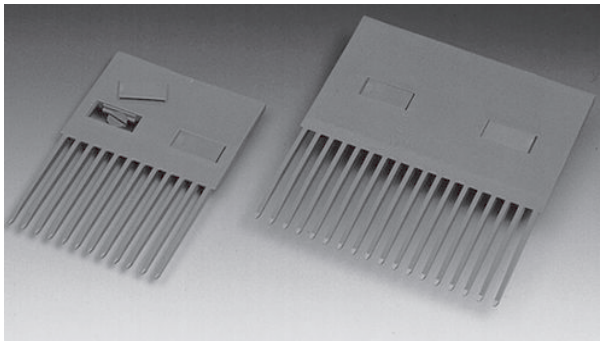
- Standard overlap design ensures product containment.
- Fastens to belt with hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6-, 9-, and 10-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 12-tooth and larger sprockets.
- Standard gap between sideguards and flight edge: 0.2 in (5 mm).
- Minimum indent: 1 in (25.4 mm).



Finger Transfer Plates

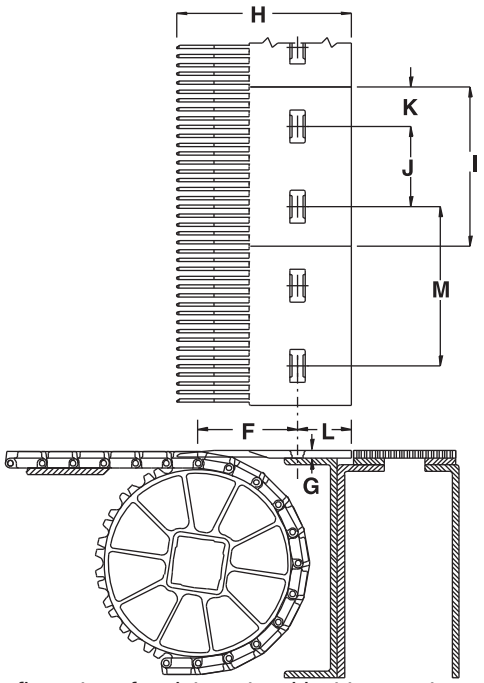
Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Acetal
4	102	12	

- Eliminates product transfer and tipping problems. The fingers extend between the belt ribs to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
- When retrofitting from Series 100 Raised Rib to Series 900 Raised Rib, only use the 4 in (102 mm) 12 finger) width.
- Do not mix 4 in (102 mm) and 6 in (152 mm) wide finger plates.



Dimensional Requirements for S900 Finger Transfer Plate Installation

		4 in (152 mm) Retrofit		6 in (152 mm)	
		in	mm	in	mm
F		2.38	61	3.50	89
G		0.19	5	0.25	6
H		5.83	148	6.50	165
I		3.94	100	5.92	150
J		2.18	55	3.00	76
K		0.90	23	1.45	37
L		2.00	51	2.00	51
M	PP	–	–	5.981	151.9
	AC	3.976	101.0	5.975	151.8



M spacing between finger transfer plates, at ambient temperature

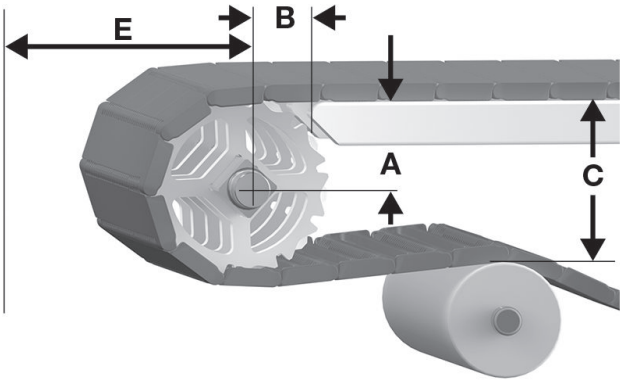
Figure 43: Finger transfer plate and conveyor assembly

Hold Down Tabs			
Available Clearance		Available Materials	
in	mm		
0.16	4.1	Acetal	
0.35	8.9		

- Tabs are placed on every other row.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between horizontal sections and angled sections. Use a carryway radius design at this transition.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- The 0.16 in (4.1 mm) tab is available in both Flat Top and Flush Grid styles. The 0.35 in (8.9 mm) tab is available with a Flat Top style. The top of this tab sits 0.04 in below the top of Flat Top belts and is level with the top of Flush Grid belts.
- Hold down tabs do not work with 2.1 in (53 mm) and 3.1 in (79 mm) pitch diameter sprockets. 3.5 in (89 mm) pitch diameter sprockets can be used with a 1.5 in (40 mm) square bore.
- A minimum of 2.7 in (69 mm) is required between tabs to accommodate 1 sprocket.
- Tabs width: 1.4 in (36 mm).
- Minimum indent: 0.7 in (17.8 mm).

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 44: A, B, C, and E drive dimensions

S900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid, Mesh Top, Nub Top, Perforated Flat Top[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.51	38
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.75	44
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.01	51

S900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.51	64
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.77	70
5.8	147	17	2.69-2.74	68-70	2.13	54	5.80	147	3.15	80
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	155	3.30	84
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	3.86	98
9.7	246	28	4.65	118	2.71	69	9.74	247	5.13	130
Flush Grid Nub Top[a]										
2.1	53	6	0.75-0.90	19-23	1.22	31	2.19	56	1.35	34
3.1	79	9	1.30-1.39	33-35	1.52	39	3.17	81	1.85	47
3.5	89	10	1.47-1.56	37-40	1.64	42	3.51	89	2.02	51
4.1	104	12	1.82-1.90	46-48	1.75	44	4.19	106	2.35	60
5.1	130	15	2.34-2.40	59-61	1.95	50	5.19	132	2.86	73
5.8	147	17	2.69-2.74	68-70	2.09	53	5.87	149	3.20	81
6.1	155	18	2.86-2.91	73-74	2.12	54	6.21	158	3.37	86
6.8	173	20	3.21-3.25	82-83	2.25	57	6.89	175	3.70	94
9.7	246	28	4.65	118	2.71	69	9.74	247	5.13	130
Raised Rib, Flush Grid with Insert Rollers, Open Grid[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.73	44
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.97	50
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.23	57
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.73	69
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.99	76
5.8	147	17	2.69-2.74	68-70	2.13	54	6.00	152	3.40	86
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	157	3.52	89
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	4.08	104
9.7	246	28	4.65	118	2.71	69	9.92	252	5.30	135
Open Flush Grid[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.51	38
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.75	44
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.01	51
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.51	64
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.77	70
5.8	147	17	2.69-2.74	68-70	2.13	54	5.80	147	3.15	80
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	155	3.30	84
6.8	173	20	3.21-3.25	81-83	2.32	59	6.75	171	3.86	98
9.7	246	28	4.65	118	2.71	69	9.70	246	5.08	129
Diamond Friction Top, Flat Friction Top, Square Friction Top[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.76	45
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.96	50
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.22	56
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.72	69
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.98	76
5.8	147	17	2.69-2.74	68-70	2.13	54	6.00	152	3.40	86
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	157	3.51	89
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	4.08	104

S900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
9.7	246	28	4.65	118	2.71	69	9.95	253	5.33	135
Mold to Width 29 mm Square Friction Top[a]										
2.1	53	6	0.75-0.90	19-23	1.27	32	2.38	60	1.54	39
3.1	79	9	1.30-1.39	33-35	1.58	40	3.36	85	2.04	52
3.5	89	10	1.47-1.56	37-40	1.70	43	3.70	94	2.21	56
4.1	104	12	1.82-1.90	46-48	1.88	48	4.38	111	2.54	65
5.1	130	15	2.34-2.40	59-61	2.10	53	5.38	137	3.05	77
5.8	147	17	2.69-2.74	68-70	2.32	59	6.06	154	3.39	86
6.1	155	18	2.83-2.88	72-73	2.31	59	6.34	161	3.52	89
6.8	173	20	3.21-3.25	82-83	2.42	61	7.08	180	3.89	99
9.7	246	28	4.65	118	2.71	69	9.94	252	5.32	135
Mold to Width Flat Top with Holes										
6.2	157	18	2.86	73	2.20	56	6.20	157	3.36	6.2

[a] For alternate layouts for the B dimension, see Anti-Sag Wearstrip Configuration.

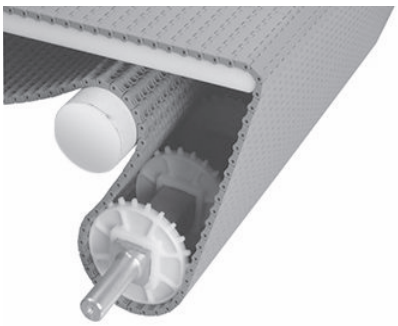
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S900 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
2.1	53	6	0.147	3.7
3.1	79	9	0.095	2.4
3.5	89	10	0.084	2.1
4.1	104	12	0.071	1.8
5.1	130	15	0.057	1.4
5.8	147	17	0.050	1.3
6.1	155	18	0.047	1.2
6.8	173	20	0.042	1.1
9.7	246	28	0.029	0.7

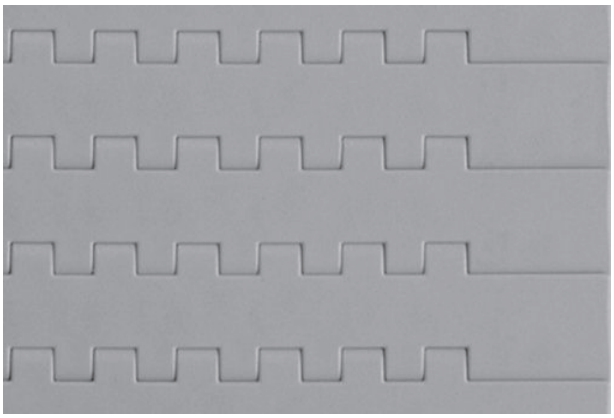
Flat Top

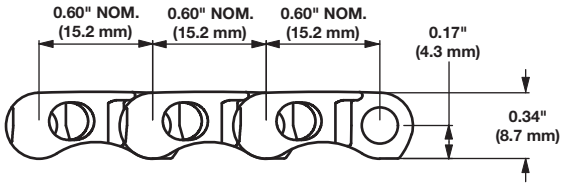
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.50	12.7
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges on one side of the belt.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.



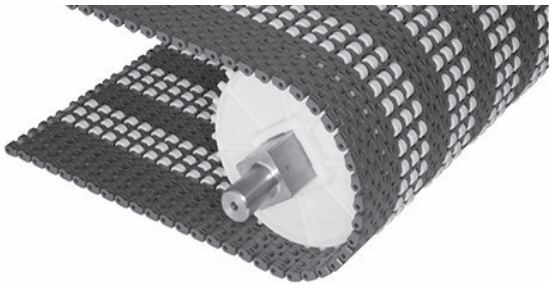


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,500	21,900	34 to 200	1 to 93	1.55	7.57
Polypropylene	Polypropylene	1,000	14,600	34 to 220	1 to 104	1.07	5.22
Polyethylene	Polyethylene	600	8,760	-50 to 150	-46 to 66	1.11	5.42
HR nylon	Nylon	1,000	14,600	-50 to 240	-46 to 116	1.31	6.43

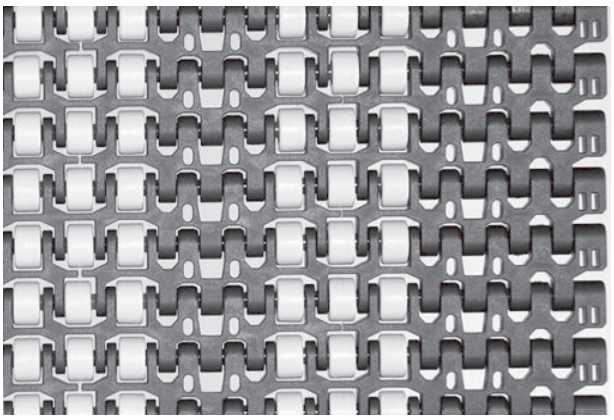
Insert Roller

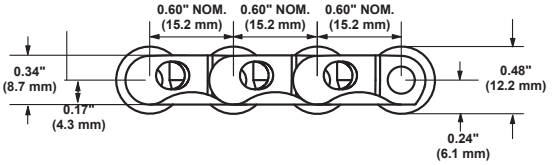
	in	mm
Pitch	0.60	15.2
Minimum Width	9	228
Width Increments	3.00	76
Open Area	12.5%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surface.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Roller density: 240 rollers/ft^2 (2580 rollers/m^2).
- Minimal back tension required for sprocket engagement.
- Compatible with 0.75 in (19.1 mm) diameter notched nosebars for tight transfers. Contact Intralox Customer Service for more information.
- Belt can be supported using 1.38 in (35.1 mm) wide or narrower parallel wearstrips.
- For low back-pressure applications, place wearstrip between rollers. For activated roller applications, place wearstrip directly under rollers.
- Yellow acetal rollers are 0.3 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Rollers are spaced in groups with 1.5 in (38.1 mm) between roller zones.
- Roller indent from edge of belt to edge of roller: 2.25 in (57.2 mm).
- Sprocket locations are indented 1.5 in (38.1 mm) from edge of belt.
- Sprocket locations are 3.0 in (76.2 mm) apart.





Belt Data

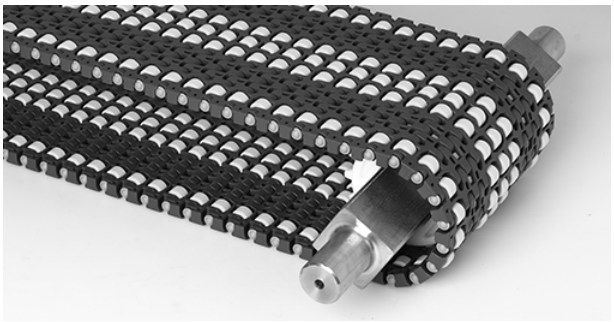
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1,000	14,600	-50 to 200	-46 to 93	1.7	8.3

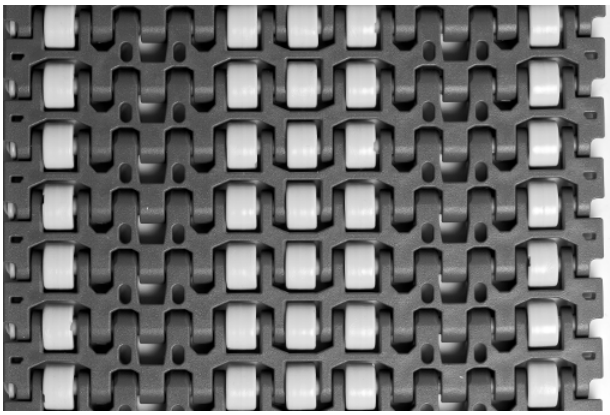
Mold to Width Insert Roller

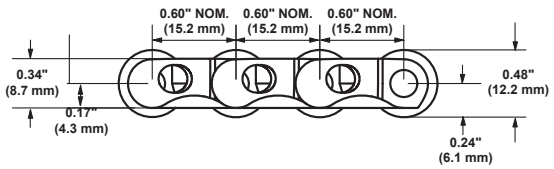
	in	mm
Pitch	0.60	15.2
Molded Width	6	152.4
Open Area	12.5%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Rollers protrude both above and below the belt.
- Rollers are on the hinge rod.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfer applications. Contact Intralox Customer Service for more information.
- The belt can be supported using 1.38 in (35.1 mm) wide or narrower parallel wearstrips.
- For low back-pressure applications, place the wearstrips between the rollers. For activated roller applications, place the wearstrip directly under rollers.
- Yellow acetal rollers are 0.3 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter.
- Roller indent from edge of belt to edge of roller: 0.44 in (11.2 mm).





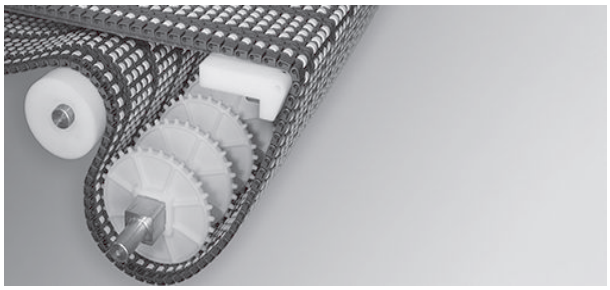


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal	Nylon	1,000	14,600	-50 to 200	-46 to 93	0.85	4.15

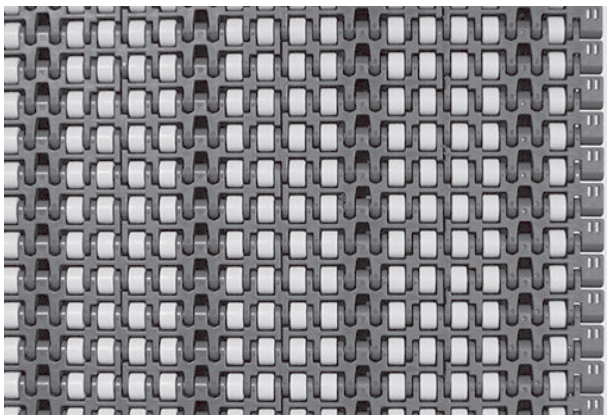
High-Density Insert Roller

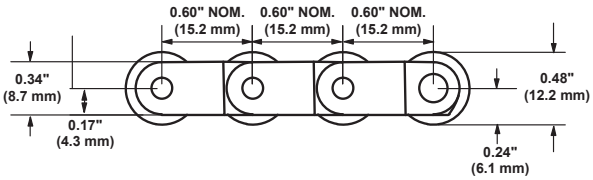
	in	mm
Pitch	0.60	15.2
Minimum Width	9	229
Width Increments	3.00	76.2
Open Area	4%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surfaces.
- Uses one unheaded rod across the entire belt width on each belt row.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- For activated roller applications, place wearstrip directly under rollers.
- For low back-pressure applications, place wearstrip between rollers in parallel. Wearstrip of 0.50 in (13 mm) wide is recommended to allow some manufacturing and installation tolerance in the conveyor, while providing adequate support to the belt. Maximum allowed wearstrip width is 0.75 in (19 mm).
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfers. For high-speed and load applications, a nose-roller is recommended.
- Yellow acetal rollers are 0.30 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Roller density: 320 rollers/ft^2 (3440 rollers/m^2).
- Roller indent: 0.70 in (17.8 mm) from edge of belt to edge of roller.
- Sprocket indent: 1.5 in (38.1 mm) from edge of belt.
- Sprocket spacing: 3.0 in (76.2 mm) apart.



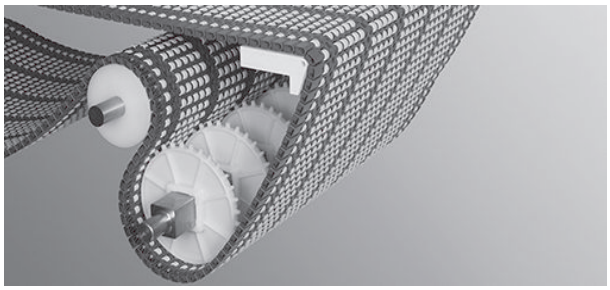


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1,000	14,600	-50 to 200	-46 to 93	1.87	9.13

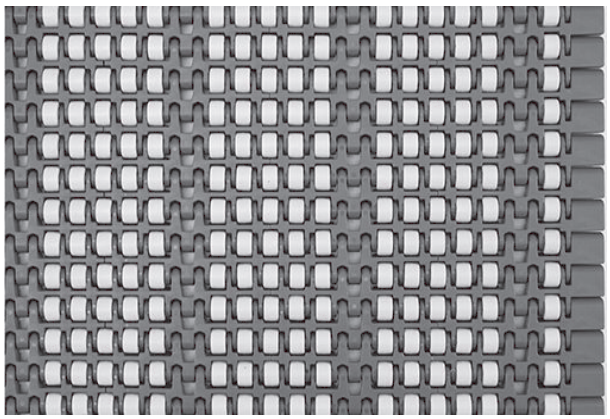
High-Density Insert Roller 85 mm

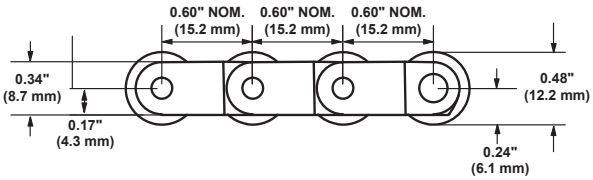
	in	mm
Pitch	0.60	15.2
Minimum Width	10	255
Width Increments	3.35	85
Open Area	3.6%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surfaces.
- Uses one unheaded rod across the entire belt width on each belt row.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- For activated roller applications, place wearstrip directly under rollers.
- For low back-pressure applications, place wearstrip between rollers in parallel. Use 0.50 in (13 mm) wide wearstrips to allow manufacturing and installation tolerance, while providing adequate belt support. Maximum wearstrip width is 0.75 in (19 mm).
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfers. For high-speed and load applications, a nose-roller is recommended.
- Yellow acetal rollers are 0.30 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Roller density: 360 rollers/ft^2 (3875 rollers/m^2).
- Roller indent: 0.89 in (22.6 mm) from edge of belt to edge of roller.
- Sprocket indent: 1.67 in (42.5 mm) from edge of belt.
- Sprocket spacing: 3.35 in (85 mm) apart.



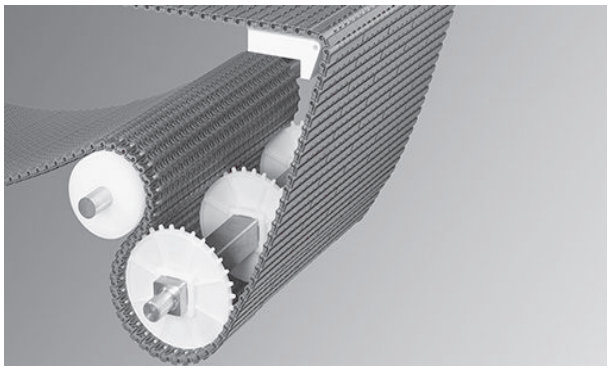


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1,000	14,600	-50 to 200	-46 to 93	1.95	9.52

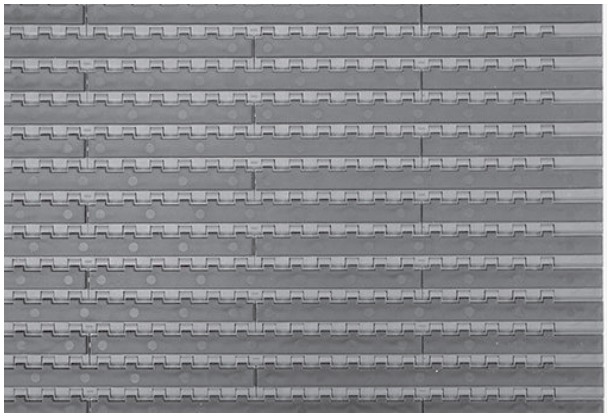
Flat Friction Top 85 mm

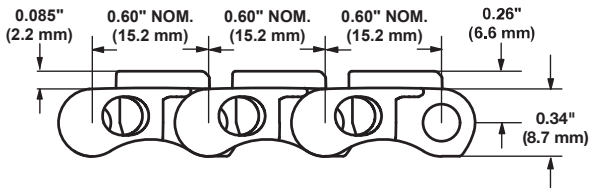
	in	mm
Pitch	0.60	15.2
Minimum Width	3.35	85.0
Maximum Width	66.9	1700
Width Increments	3.35	85
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges on one side of the belt.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Minimal back tension required for sprocket engagement.
- Underside design combined with small pitch allows the belt to run smoothly around a 0.75 in (19 mm) nosebar. Use a dynamic nose-roller for package handling applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.





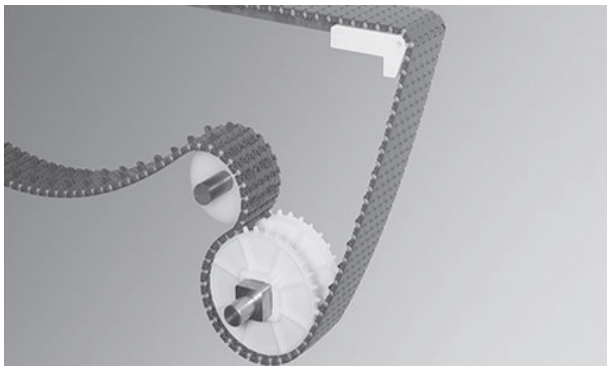
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Acetal	Grey/black	Nylon	1,500	21,900	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] Fully compliant

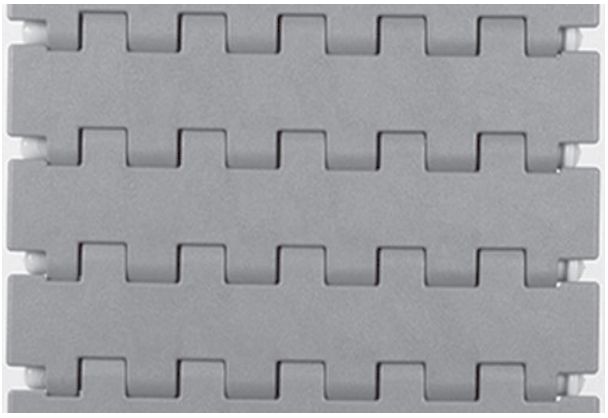
Mold to Width Flat Top with Tabs

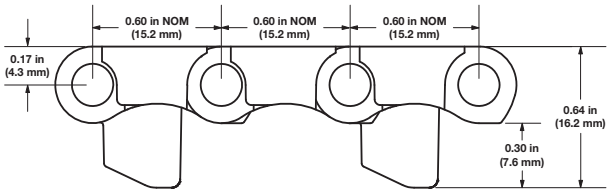
	in	mm
Pitch	0.60	15.2
Molded Widths	3.25	83
	3.35	85
	4.50	114
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- 3.25 in (83 mm) tabbed belts use one sprocket.
- 4.50 in (114 mm) and 3.35 in (85 mm) tabbed belts use up to three sprockets.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- Width tolerances: +0.000/-0.020 in (+0.00/-0.50 mm).
- 3.35 in (85 mm) molded tracking tabs fit into standard 1.65625 in (42.1 mm) wearstrip tracks, ensuring proper belt alignment.
- 3.25 in (83 mm) and 4.50 in (114 mm) molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks, ensuring proper belt alignment.
- Available in 10 ft (3 m) increments.



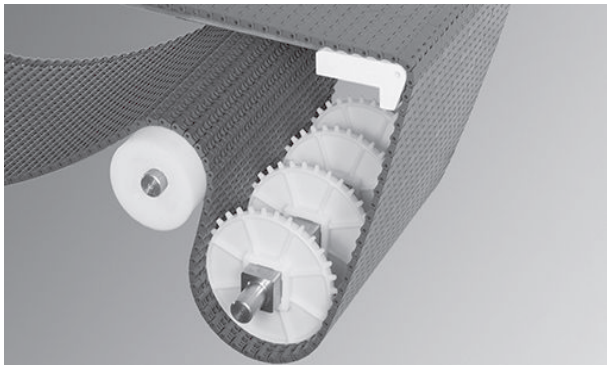


Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
in	mm			lbf	N	°F	°C	lb/ft	kg/m
3.25	83	Acetal	Nylon	250	1,110	-50 to 200	-46 to 93	0.44	0.65
3.35	85	Acetal	Nylon	419	1,860	-50 to 200	-46 to 93	0.44	0.65
4.50	114	Acetal	Nylon	563	2,500	-50 to 200	-46 to 93	0.60	0.89

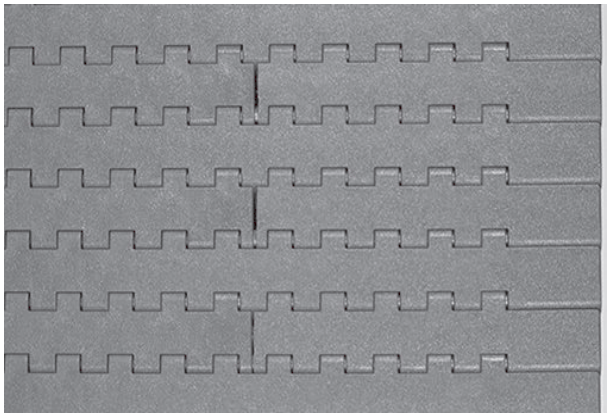
Flat Top 85 mm

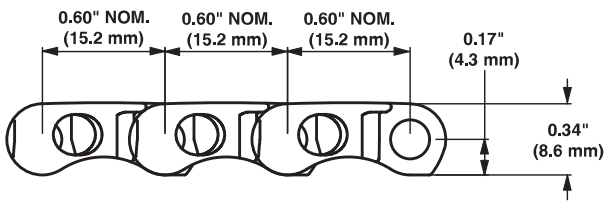
	in	mm
Pitch	0.60	15.2
Minimum Width	3.35	85
Maximum Width	67	1700
Width Increments	3.35	85
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges used on one side of the belt.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Underside design, combined with small pitch, allows the belt to run smoothly around a 0.75 in (19 mm) nosebar.
- A dynamic nose-roller is highly recommended for package handling applications.
- Minimal back tension required for sprocket engagement.



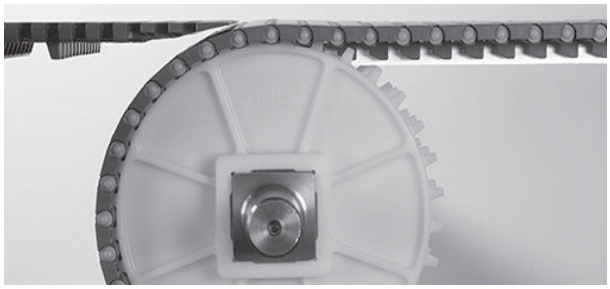


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,500	21,900	34 to 200	1 to 93	1.55	7.57

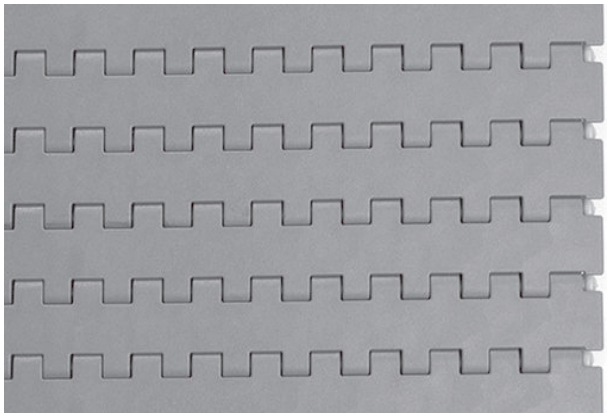
Flat Top ONEPIECE™ Live Transfer 6.3 in

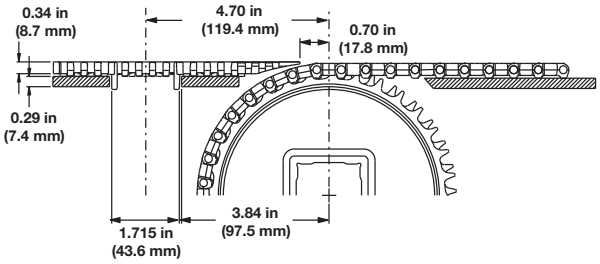
	in	mm
Pitch	0.60	15.2
Molded Width	6.3	160
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Transfer edge is an integral part of this belt.
- Designed for smooth, self-clearing, right-angle transfers onto takeaway belts.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses three sprockets.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- For information regarding sprocket placement, see the center sprocket offset table in Retainer Rings and Center Sprocket Offset.
- Minimal back tension required for sprocket engagement.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See 90-Degree Container Transfers for more information.
- Requires sprockets with a pitch diameter of 1.50 in (38.1 mm) or larger.
- Cannot be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks to ensure proper belt alignment.
- Available in 10 ft (3 m) increments.



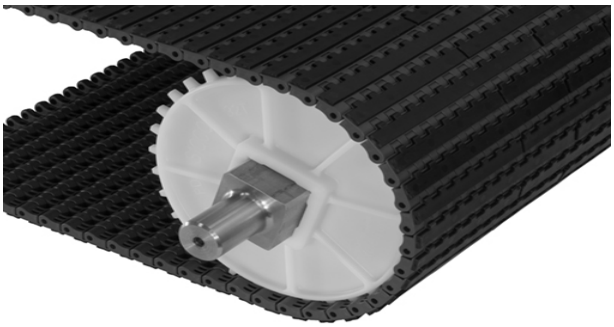


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	500	7,300	-50 to 200	-46 to 93	0.78	3.81

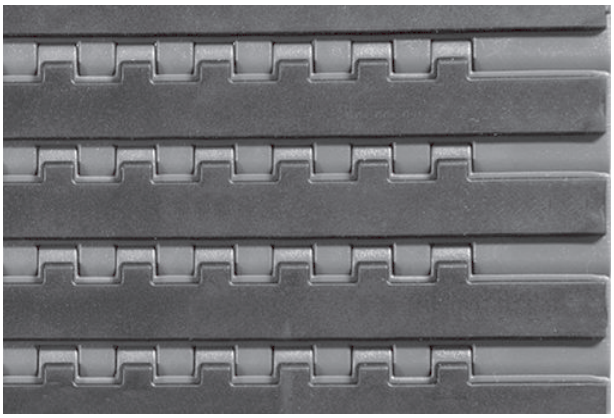
Flat Friction Top

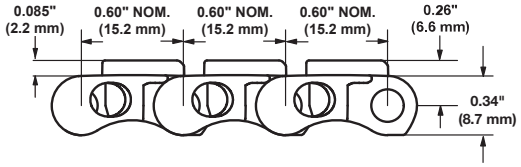
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in grey acetal with black rubber.
- Smooth, closed upper surface with fully flush edges.
- Friction Top extends to the edge of the belt (no indent).
- Closed edges on one side of the belt.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Underside design and small pitch combine to allow the belt to run smoothly around nosebars.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.





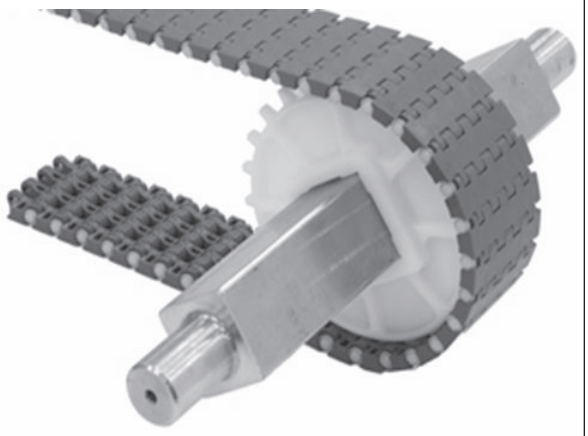
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Acetal	Grey/black	Nylon	1,500	21,900	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	b	
Acetal	White/white	Nylon	1,500	21,900	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] Fully compliant

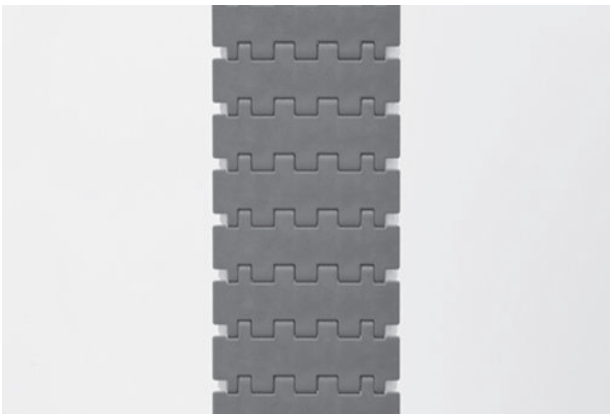
Mold to Width Flat Top

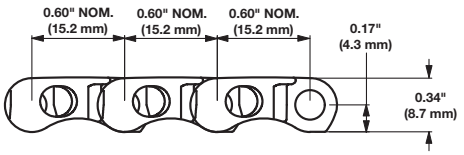
	in	mm
Pitch	0.60	15.2
Molded Widths	1.1	29
	1.5	37
	1.8	46
	2.2	55
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- Available in 10 ft (3 m) increments.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 29 mm and 37-mm belts use one sprocket.
- 46 mm and 55-mm belts can use up to two sprockets.





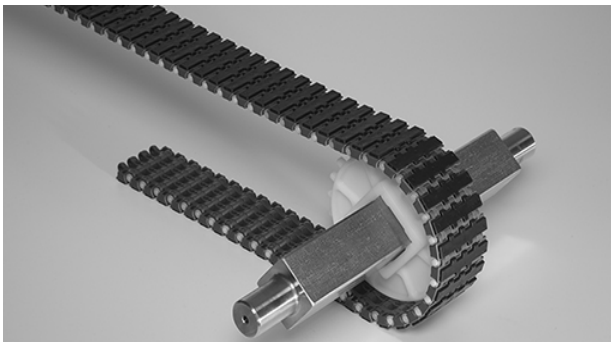
Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
in	mm			lbf	N	°F	°C	lb/ft	kg/m
1.1	29	Acetal	Nylon	140	623	-50 to 200	-46 to 93	0.15	0.22
1.5	37	Acetal	Nylon	200	890	-50 to 200	-46 to 93	0.19	0.28
1.8	46	Acetal	Nylon	230	1,020	-50 to 200	-46 to 93	0.23	0.35
2.2	55	Acetal	Nylon	201[a]	894[a]	-50 to 200	-46 to 93	0.28	0.42

[a] 270 lbf (1,200 N) for 2.2 in (55 mm) with two (2) sprockets

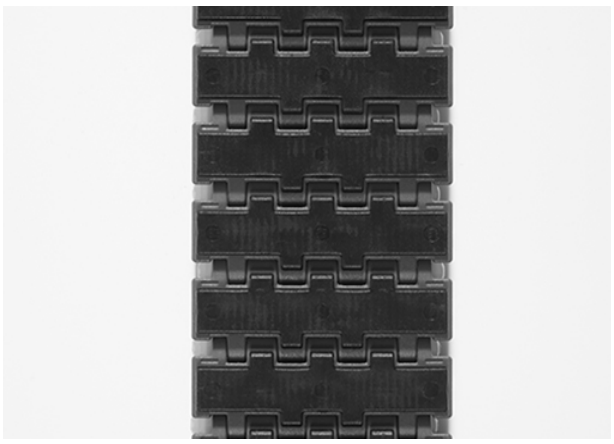
Mold to Width Flat Friction Top

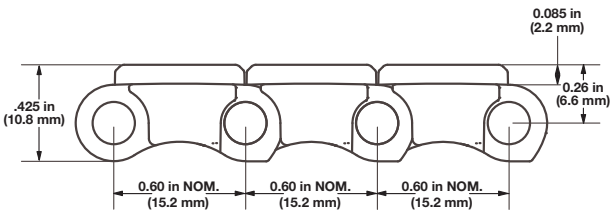
	in	mm
Pitch	0.60	15.2
Molded Widths	1.1	29
	2.2	55
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Friction top extends to the end of the belt, with no indent.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Available in grey acetal with black rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Available in 10 ft (3 m) increments.
- Minimal back tension required for sprocket engagement.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 29-mm belts use one sprocket.
- 55-mm belts can use up to two sprockets.





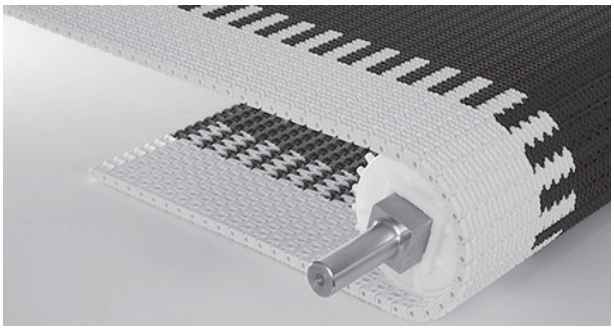
Belt Data

Belt Width		Belt Material	Base/ Friction Top	Default Rod Material, Diameter	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability: 1=White, 2=Blue, 3=Natural, 4=Grey	
in	mm			0.18 in (4.6 mm)	lbf	N	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC
1.1	29	Acetal	Grey/black	Nylon	140	623	34 to 130	1 to 54	0.17	0.25	54 Shore A	a	
2.2	55	Acetal	Grey/black	Nylon	200[b]	890	34 to 130	1 to 54	0.34	0.48	54 Shore A	a	

[a] Fully compliant
[b] 270 lbf (1,200 N) for 2.2 in (55 mm) with two (2) sprockets

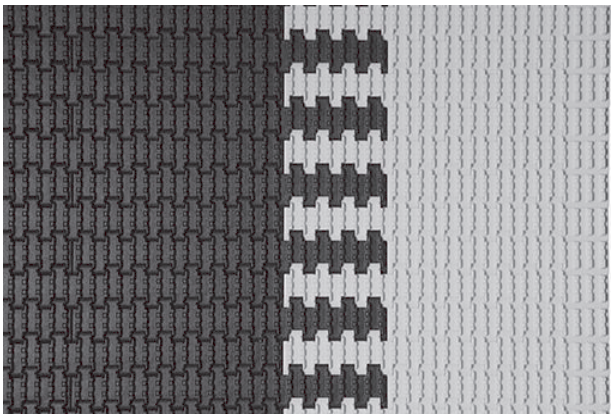
Non Skid Raised Rib

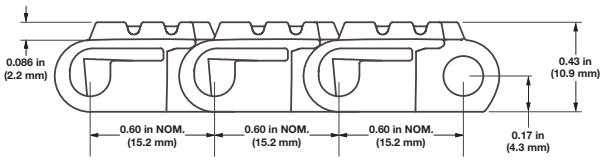
	in	mm
Pitch	0.60	15.2
Minimum Width	3.0	76.0
Width Increments	0.5	12.7
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two edge options available: no indent and 21 mm indent.
- Non Skid Raised Rib surface increases traction.
- Closed edges on one side of the belt.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Low profile conveyor reduces the installation costs associated with digging pits.
- Finger transfer plates ensure safe transfers, eliminating the need for safety stops and reducing downtime.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2,000	29,200	-50 to 200	-46 to 93	1.86	9.08
HSEC acetal	Nylon	1,800	26,300	-50 to 200	-46 to 93	1.88	9.18

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway[c]
3	76	2	2	2
4	102	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
15	381	3	4	3
18	457	3	4	3
24	610	5	5	3
30	762	5	6	4
36	914	7	7	4
42	1,067	7	8	5
48	1,219	9	9	5
54	1,372	9	10	6
60	1,524	11	11	6
72	1,829	13	13	7
84	2,134	15	15	8
96	2,438	17	17	9
120	3,048	21	21	11
144	3,658	25	25	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[d]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

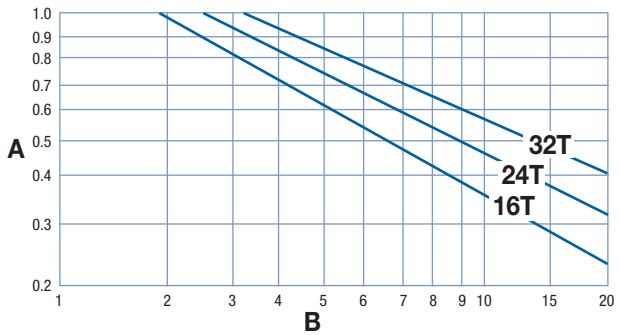
[a] Belts are available in 0.5 in (12.7 mm) increments beginning with 3 in (76 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] For Friction Top applications, use caution and contact Intralox Customer Service.

[d] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor

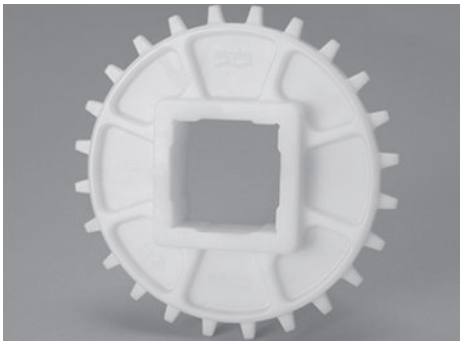


A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed (V) by the shaft centerline distance (L). The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm	Square mm
16 (1.92%)	3.1[b]	79[b]	3.2	81	0.5	13		1.5		40
					1.0	25	1.0, 1.25			
24 (0.86%)	4.6	117	4.8	121	1.0	25		1.5, 2.5		40, 60
					1.5	38			30	
30 (0.54%)	5.8	147	5.9	150	1.0	25				
					1.5	38	1.0, 1.25, 1-7/16			
32 (0.48%)	6.1	155	6.5	164	1.0	25		1.5		40
					1.5	38	1.25			



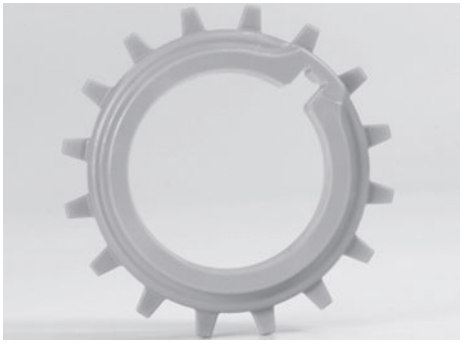
[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
[b] When using 3.1 in (79 mm) pitch diameter sprockets, the belt strength for belts rated over 1,200 lbf/ft (17,500 N/m) is de-rated to 1,200 lbf/ft (17,500 N/m). All other belts maintain the published rating.

Acetal Split Sprockets

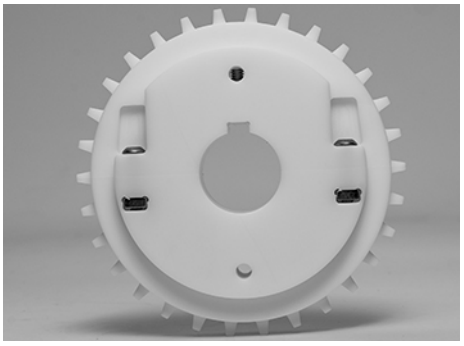
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
24 (0.86%)	4.6	117	4.8	121	1.5	38	1.25			
32 (0.48%)	6.1	155	6.5	164	1.5	38			30, 40	

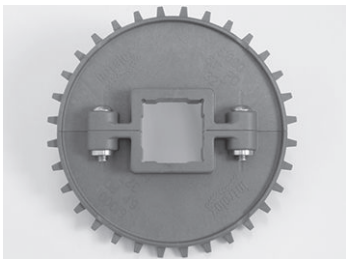


[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

HR Nylon Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	3.1	79	3.2	81	1.0	25	1.9[b]				

[a] Cannot be used with S1000 High Density Insert Rollers.
[b] 0.25 in keyway

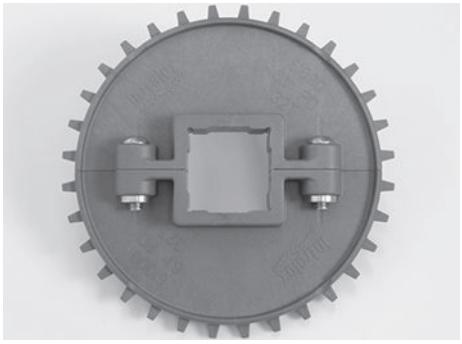
HR Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
30 (0.54%)	5.8	147	5.9	150	1.48	38	1-7/16				

Glass-Filled Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes[a]				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
24 (0.86%)	4.6	117	4.8	121	1.5	38	1.0, 1.25, 1.5	1.5	30, 40	40	
30 (0.54%)	5.8	147	6	152	1.5	38	1.25, 1-7/16, 1.5		30, 40		
32 (0.48%)	6.1	155	6.5	164	1.5	38	1.0, 1.25, 1-7/16, 1.5	1.5	30, 40	40	

[a] The 24-tooth, 30-mm round bore sprocket is available with or without keyway. Identify keyway requirements when ordering these sprockets.

Polypropylene Composite Split Sprockets

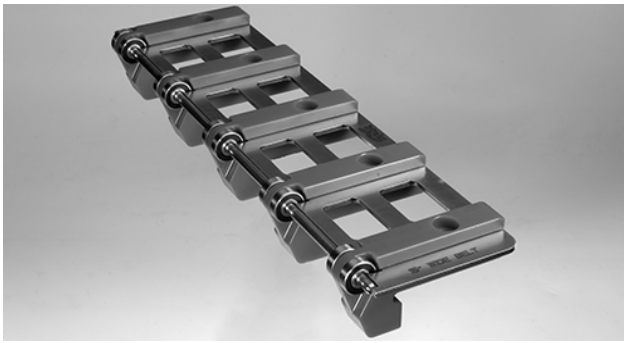
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
24 (0.86%)	4.6	117	4.8	121	1.5	38		1.5		40
32 (0.48%)	6.1	155	6.5	164	1.5	38		1.5		40

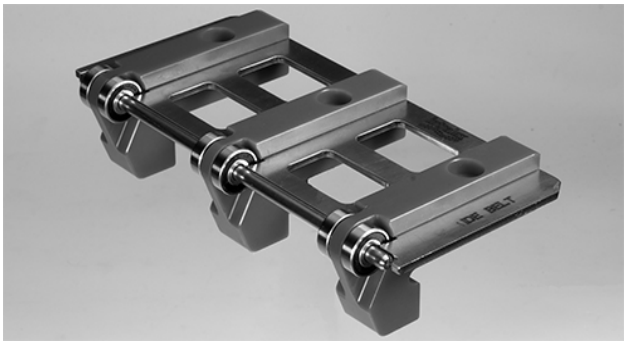


Dynamic Nose-Rollers

Standard Nose-Roller Widths	
U.S. Sizes (in)	Metric Sizes (mm)
4.5	170.0
6.0	255.0
9.0	340.0
12.0	425.0
15.0	
18.0	
24.0	

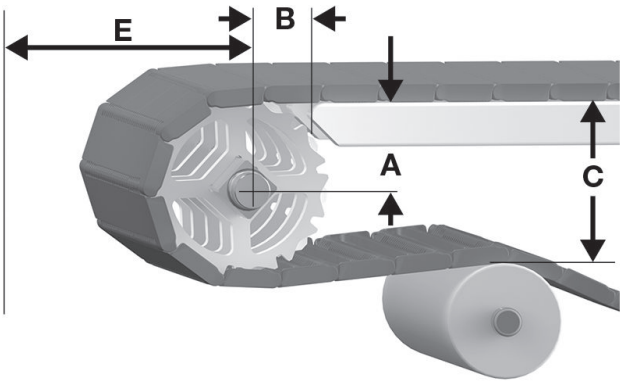
- U.S. sizes are available in 4.5 in, 6 in, and then in 3 in increments. Metric sizes are available in 85 mm (3.35 in) increments.
- For other belt widths, combine multiple nose-rollers in the available increments. For assistance, contact Intralox Customer Service.
- Made of FDA-compliant, blue, oil-filled nylon.
- Roller diameter: 0.75 in (19 mm)





CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 45: A, B, C, and E drive dimensions

S1000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flat Top 85 mm, Mold to Width Flat Top										
3.1	79	16	1.34-1.37	34-35	1.59	40	3.08	78	1.77	45
4.6	117	24	2.11-2.13	54	1.99	50	4.60	117	2.53	64
6.1	155	32	2.88-2.89	73	2.43	62	6.12	155	3.29	84
High Density Insert Roller, Insert Roller										
3.1	79	16	1.33	34	1.60	41	3.13	80	1.84	47
4.6	117	24	2.10	53	2.02	51	4.65	118	2.60	66
6.1	155	32	2.87	73	2.46	62	6.18	157	3.36	85
Flat Friction Top, Flat Friction Top 85 mm										
3.1	79	16	1.35	34	1.59	40	3.17	81	1.86	47
4.6	117	24	2.12	54	2.01	51	4.70	119	2.62	67
6.1	155	32	2.88	73	2.44	62	6.22	158	3.39	86

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1000 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
3.1	79	16	0.029	0.7
4.6	117	24	0.020	0.5
6.1	155	32	0.015	0.4

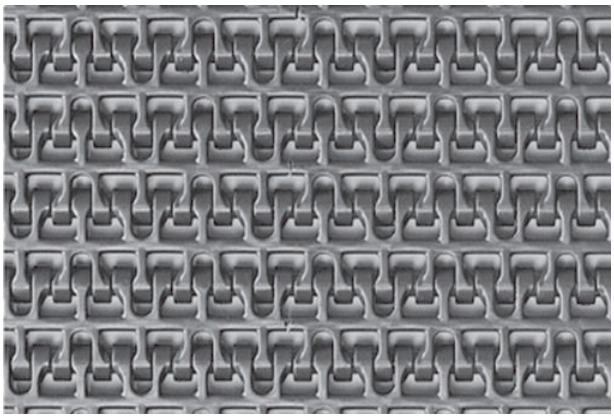
Flush Grid

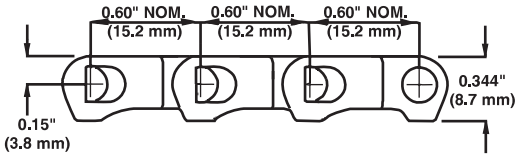
	in	mm
Pitch	0.60	15.2
Minimum Width	See *Product Notes*.	
Width Increments		
Minimum Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Maximum Opening Size (approximate)	0.31 × 0.10	7.9 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Custom-built in widths that vary by material.
  - Acetal and polypropylene are available in widths from 3 in (76 mm) and up, in 0.5 in (12.7 mm) increments.
  - Flame retardant thermoplastic polyester (FR TPES) is available in widths from 5 in (127 mm) and up, in 1.0 in (25.4 mm) increments.
  - All other materials are available in widths 3 in (76 mm) and up, in 1.0 in (25.4 mm) increments.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.





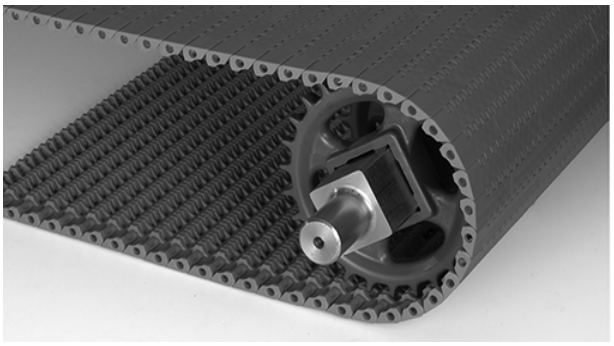
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.81	3.95
Polyethylene	Polyethylene	450	6,570	-50 to 150	-46 to 66	0.87	4.25
Acetal	Polypropylene	1,300	19,000	34 to 200	1 to 93	1.19	5.80
HSEC acetal	Polypropylene	800	11,700	34 to 200	1 to 93	1.19	5.80
FR TPES	Polypropylene	750	7,355	40 to 150	4 to 66	1.30	6.34
HHR nylon	HHR nylon	1,100	14,600	-50 to 310	-46 to 154	1.14	5.57
HR nylon	Nylon	1,100	14,600	-50 to 240	-46 to 116	1.07	5.22
UV resistant polypropylene	UV resistant polypropylene	700	10,200	34 to 220	1 to 104	0.81	3.98
Detectable polypropylene A22	Polypropylene	450	4,413	34 to 150	1 to 66	1.04	5.08
Acetal[a]	Polyethylene	1,200	17,500	-50 to 70	-46 to 21	1.19	5.80
UVFR	UVFR	700	10,200	-34 to 200	1 to 93	1.57	7.67
PK	PK	1,300	19,000	-40 to 176	-40 to 80	1.04	5.08

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

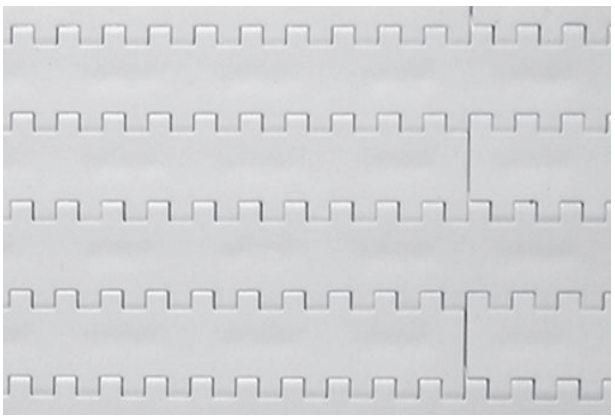
Flat Top

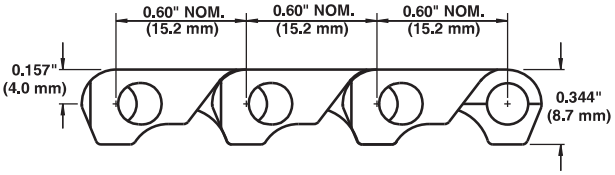
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Lightweight with smooth, closed surface grid.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers. See Tight-Transfer Methods for more information.





Belt Data

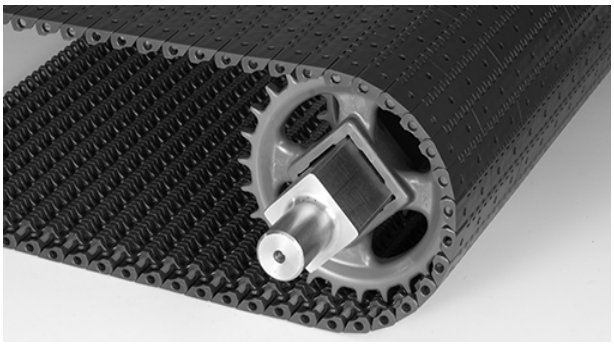
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	500[a]	4,903[a]	34 to 220	1 to 104	0.90	4.40
Polyethylene	Polyethylene	300[a]	2,942[a]	-50 to 150	-46 to 66	0.96	4.69
HR nylon	Nylon	500	4,903	-50 to 240	-46 to 116	1.15	5.61
HHR nylon	HHR nylon	800	7,845	-50 to 310	-46 to 154	1.175	5.74
Acetal	Polypropylene	1,000	14,600	34 to 200	1 to 93	1.30	6.35
Acetal[b]	Polyethylene	900	8,826	-50 to 70	-46 to 21	1.30	6.35
X-ray detectable acetal	X-ray detectable acetal	800	11,700	-50 to 200	-46 to 93	1.6	7.81
Detectable polypropylene A22	Polypropylene	300	2,942	34 to 150	1 to 66	1.09	5.32
PK	PK	1,000	14,600	-40 to 176	-40 to 80	1.14	5.57

[a] When using steel split sprockets, the belt strength for polypropylene is 400 lbf/ft (5,840 N/m): polyethylene is 240 lbf/ft (3,500 N/m)

[b] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

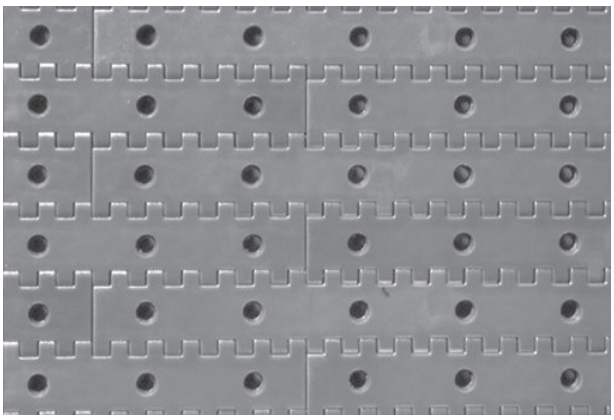
Perforated Flat Top

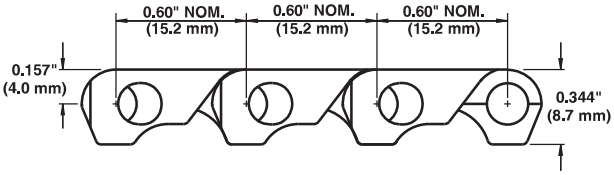
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	See *Product Notes*.	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- 5.3% open area includes 2.1% open area at the hinge.
- Available with 5/32 in (4 mm) round perforations on a nominal 1 in (25.4 mm) × 0.6 in (15.2 mm) perforation pattern.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers. See Tight-Transfer Methods for more information.
- For use on vacuum applications requiring tight, end-to-end transfers.





Belt Data

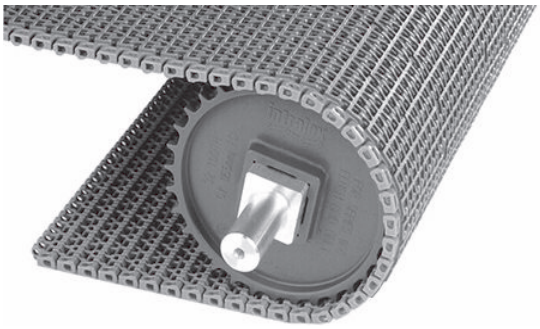
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,000	14,600	34 to 200	1 to 93	1.30	6.35
Acetal[a]	Polyethylene	900	13,100	-50 to 70	-46 to 21	1.30	6.35

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

SERIES 1100

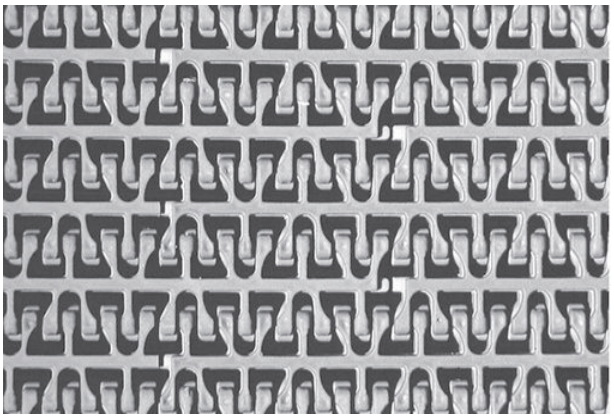
Flush Grid Friction Top

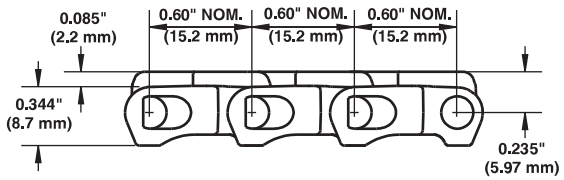
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Abrasion resistant rods are recommended.
- Available in grey polypropylene with grey rubber, blue polypropylene with blue rubber, grey polypropylene with black rubber, and white polypropylene with white rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Take these items into consideration when designing conveyor systems using these belts.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Molded indent: 0.34 in (8.6 mm)





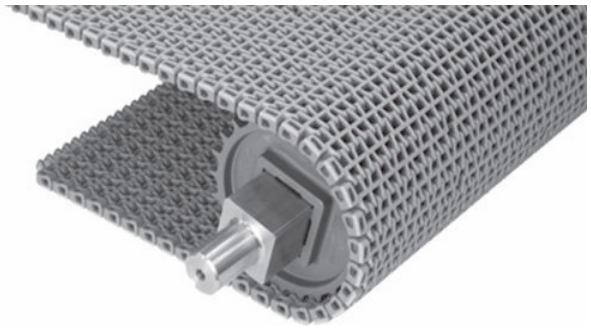
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/grey	Polypropylene	700	10,200	34 to 150	1 to 66	1.18	5.76	64 Shore A		
Polypropylene	Grey/black	Polypropylene	700	10,200	34 to 150	1 to 66	1.18	5.76	55 Shore A	b	
Polypropylene	White/white	Polypropylene	700	10,200	34 to 150	1 to 66	1.18	5.76	55 Shore A	b	c
Polypropylene	High-performance FT blue/blue	Polypropylene	700	10,200	34 to 212	1 to 100	1.18	5.76	59 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

Flush Grid Friction Top, No Indent

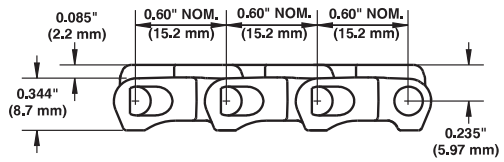
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Abrasion resistant rods are recommended.
- Available in blue PP with blue rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.





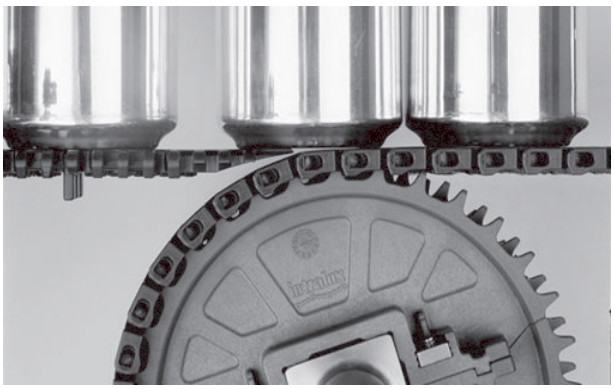
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	High-Performance FT Blue/Blue	Polypropylene	700	10,200	34 to 212	1 to 100	1.18	5.76	59 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

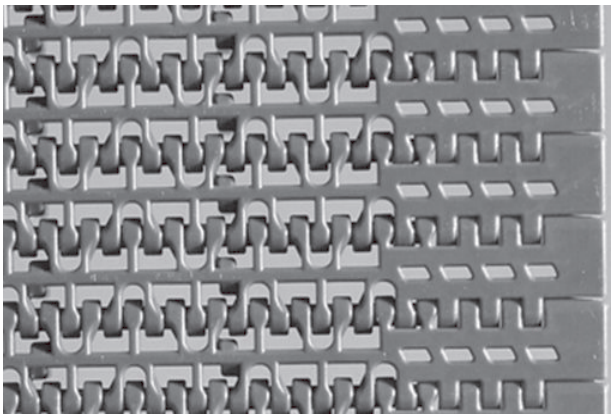
ONEPIECE™ Live Transfer Flush Grid

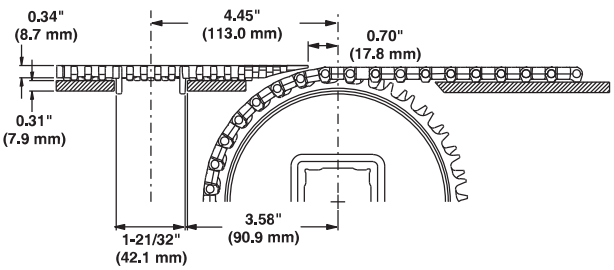
	in	mm
Pitch	0.60	15.2
Minimum Width	6	152
Width Increments	1.00	25.4
Minimum Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Maximum Opening Size (approximate)	0.31 × 0.10	7.9 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Transfer edge is an integral part of this belt.
- Built with nylon rods for superior wear resistance.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Recommended for use with EZ Track sprockets.
- Use sprockets with a pitch diameter of 3.5 in (89 mm) or larger.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See 90-Degree Container Transfers.
- Also available in 6 in (152 mm) Mold to Width.
- For custom belt widths, contact Intralox Customer Service.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks ensuring proper belt alignment.



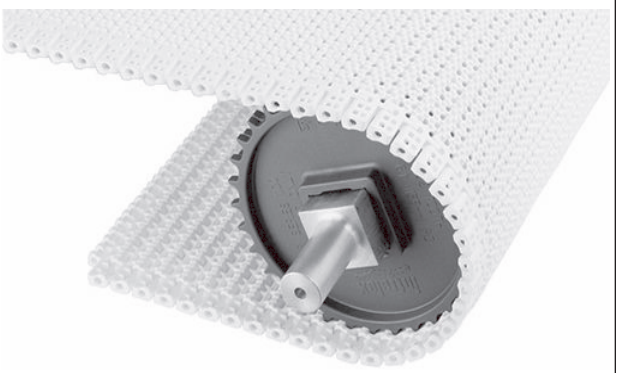


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1,300	19,000	34 to 200	1 to 93	1.19	5.80
FR TPES	Nylon	750	10,900	40 to 150	4 to 66	1.30	6.34
HHR nylon	HHR nylon	1,100	16,100	-50 to 310	-46 to 154	1.20	5.80

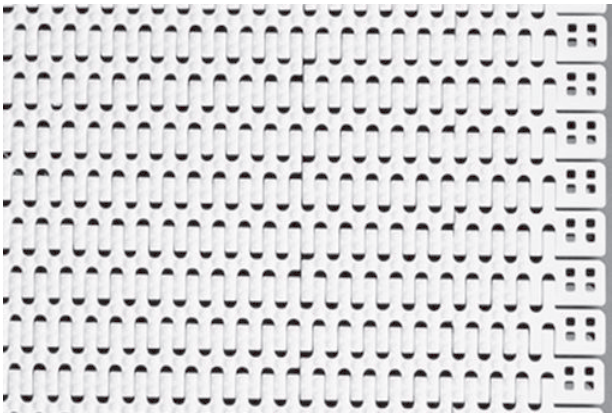
Flush Grid Nub Top

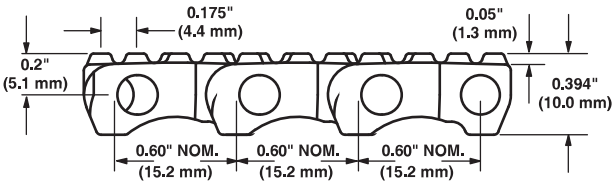
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size (approximate)	0.18 × 0.09	4.4 × 2.3
Open Area	15%	
Product Contact Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Nub pattern reduces contact between belt surface and product.
- Available in acetal, polypropylene, and polyethylene (for frozen products).
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Recommended for products large enough to span the distance between the nubs.
- Flush Grid Nub Top flights are available.
- Standard nub indent: 1.0 in (25.4 mm).





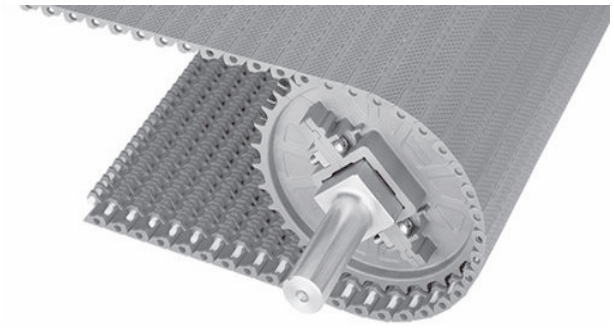
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.93	4.55
Acetal	Polypropylene	1,300	19,000	34 to 220	7 to 93	1.36	6.65
Polyethylene	Polyethylene	450	6,570	-50 to 150	-46 to 66	1.00	4.90
Acetal	Polyethylene	1,200	17,500	-50 to 150	-46 to 66	1.36	6.65

[a] When using polyurethane sprockets, the belt strength for polypropylene, acetal, and nylon is750 lbf/ft (10,900 N/m), and the temperature range for the sprocket is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

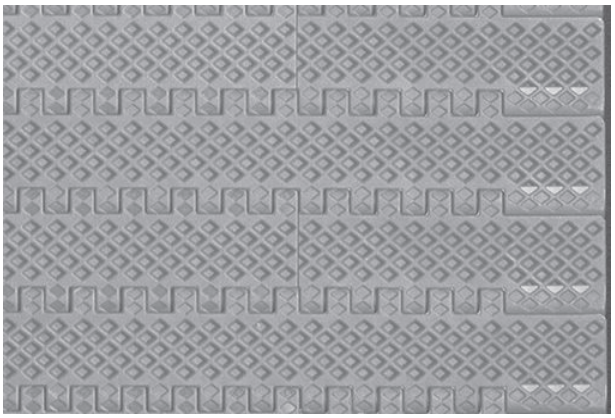
Embedded Diamond Top

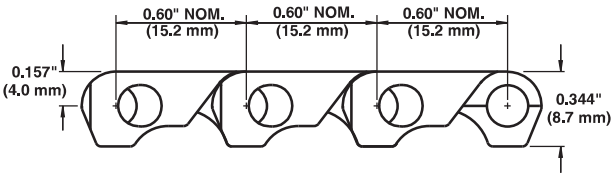
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth, closed surface grid.
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.





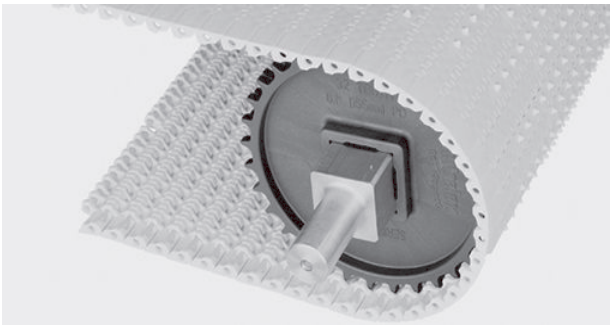
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polyethylene	Polyethylene	300	4,380	-50 to 150	-46 to 66	0.96	4.69

[a] When using steel sprockets, the belt strength for polyethylene is 240 lbf/ft (3,400 N/m).

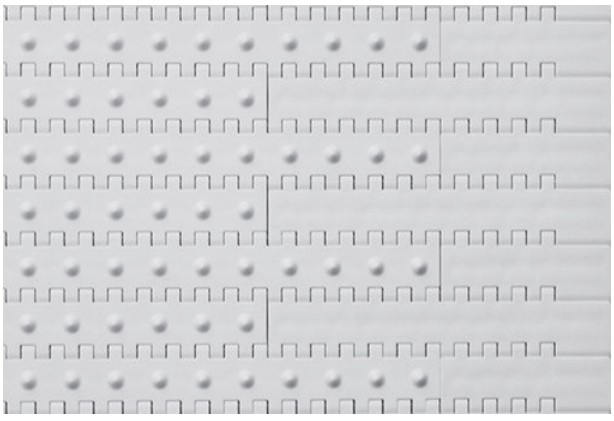
Cone Top™

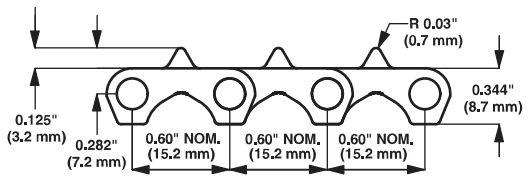
	in	mm
Pitch	0.60	15.2
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Small pitch reduces chordal action and the gap required at the transfer dead plate.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).



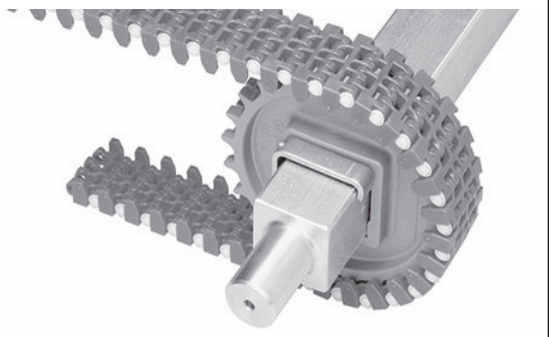


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,000	14,600	34 to 200	1 to 93	1.31	6.40
HR nylon	Nylon	500	7,300	-50 to 240	-46 to 116	1.18	5.76

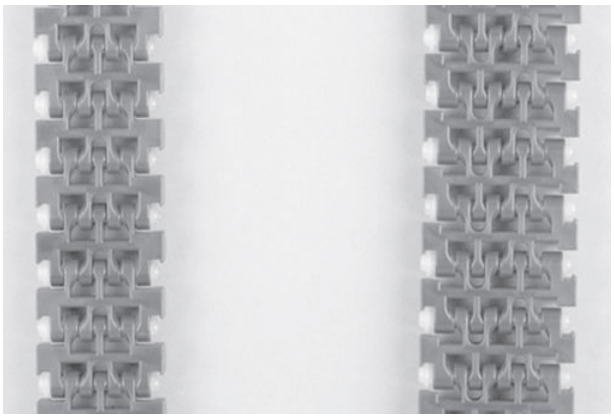
Flush Grid Mold to Width, 38 mm and 46 mm Wide

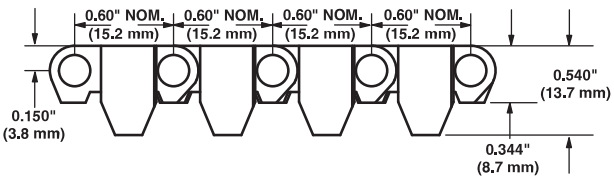
	in	mm
Pitch	0.60	15.2
Molded Widths	1.5 & 1.8	38 & 46
Minimum Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Maximum Opening Size (approximate)	0.31 × 0.10	7.9 × 2.5
Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Flush edges.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Standard nylon rodlets provide longer service life.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Use only EZ Track sprockets.
- Use one sprocket maximum per shaft for both widths.
- Spacing between tracking tabs:
  - 38-mm belt: 1.2 in (30.6 mm)
  - 46-mm belt: 1.54 in (39.1 mm)
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Available in 10 ft (3 m) increments.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft²	kg/m²
Acetal (38 mm)	Nylon	130	578	-50 to 200	-46 to 93	0.185	0.275
Acetal (46 mm)	Nylon	150	667	-50 to 200	-46 to 93	0.216	0.321

Sprocket and Support Quantity Reference[a]				
Belt Width Range[b]		Minimum Number of Sprockets Per Shaft[c]	Wearstrips	
in	mm		Carryway	Returnway[d]
3	76	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1,067	11	8	5
48	1,219	13	9	5
54	1,372	15	10	6
60	1,524	15	11	6
72	1,829	19	13	7
84	2,134	21	15	8
96	2,438	25	17	9
120	3,048	31	21	11
144	3,658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[e]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Because of the single plate steel design, Intralox recommends using twice as many 8- and 12-tooth sprockets as indicated.

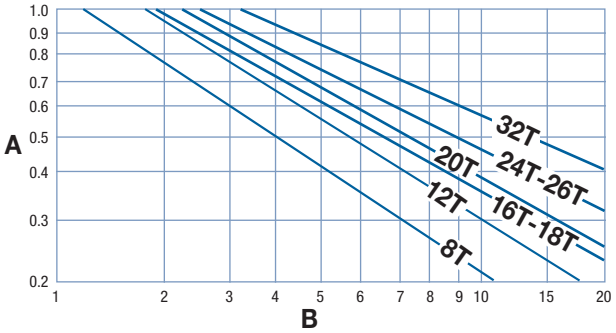
[b] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 3 in (76 mm). If the actual width is critical, contact Intralox Customer Service.

[c] This number is a minimum. Heavy-load applications can require additional sprockets.

[d] For Friction Top applications, use caution and contact Intralox Customer Service.

[e] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

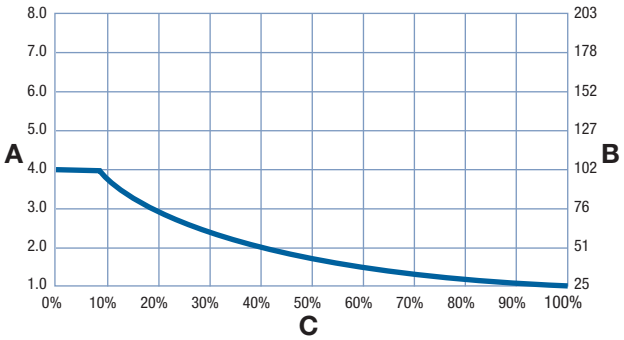
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

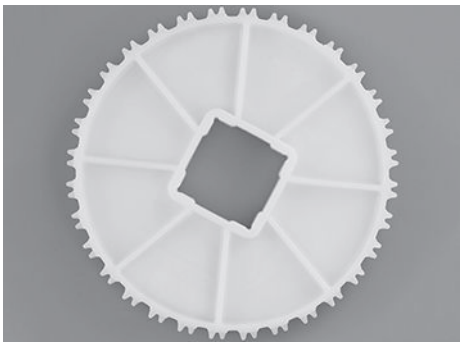
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

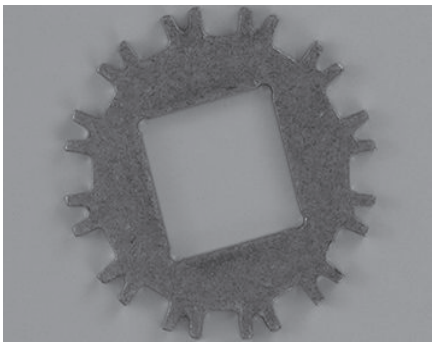
Molded Sprocket

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
12 (3.41%)	2.3	58	2.3	58	0.75	19	1.0	1.0	25	25
16 (1.92%)	3.1	79	3.1	79	1.0	25	1, 1.25	1.5	25 to 30	40
18 (1.52%)	3.5	89	3.5	89	0.75	19		1.0, 1.5		25, 40
20 (1.23%)	3.8	97	3.8	97	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25	1 to 1.25	1.5 m 2.5	25 to 30	40, 60
26 (0.73%)	5.1	130	5.1	130	1.0	25	1 to 1.25	1.5	25 to 30	40
32 (0.48%)	6.1	155	6.2	157	1.0	25	1 to 1.25	1.5, 2.5	25 to 30	40, 60



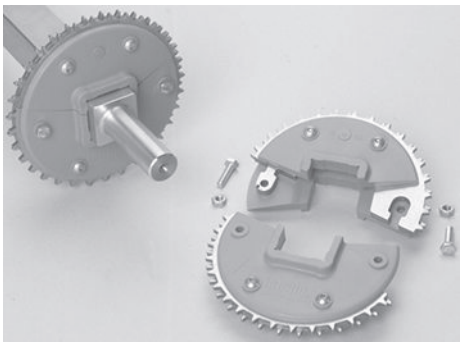
[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

Abrasion Resistant Metal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm [a]	Square mm	
8 (7.61%)	1.6	41	1.6	41	0.164	4.2	0.75	0.625	20		
12 (3.41%)	2.3	58	2.3	58	0.164	4.2	1.0	1.0	25	25	

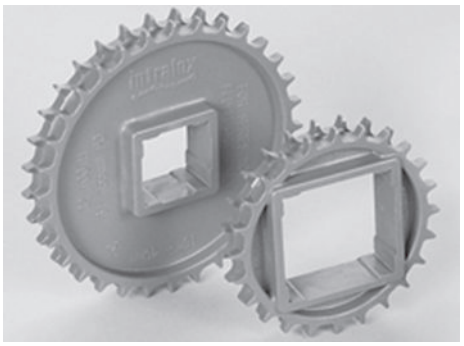
[a] The stainless steel sprockets have a male key in the round bore sizes. Since the key is part of the sprocket, only the center sprockets must be locked down to track the belt. The male key requires running the shaft keyway along the entire length of the shaft. Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

Split Metal Sprockets

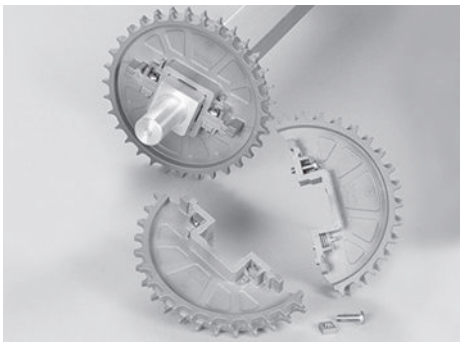
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
18 (1.54%)	3.5	89	3.5	89	1.7	43		1.5		40	
24 (0.86%)	4.6	117	4.7	119	1.7	43	1, 1-3/16, 1-1/4	1.5	30	40	
26 (0.73%)	5.1	130	5.1	130	1.7	43	1, 1-3/16, 1-1/4	1.5, 2.5		40, 60	
32 (0.48%)	6.1	155	6.2	157	1.7	43	1, 1-3/16, 1-1/4, 1-1/2	1.5, 2.5		40, 60	

[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

EZ Track™ Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	3.1	79	3.1	79	1.0	25		1.5		40	
18 (1.52%)	3.5	89	3.5	89	1.0	25		1.5		40	
24 (0.86%)	4.6	117	4.7	119	1.0	25		1.5, 2.5		40, 60	
32 (0.48%)	6.1	155	6.2	157	1.0	25		1.5, 2.5		40, 60	

EZ Track™ Glass-Filled Nylon Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
24 (0.86%)	4.6	117	4.7	119	1.5	38		1.5		40	
32 (0.48%)	6.1	155	6.2	157	1.5	38		1.5, 2.5		40, 60	

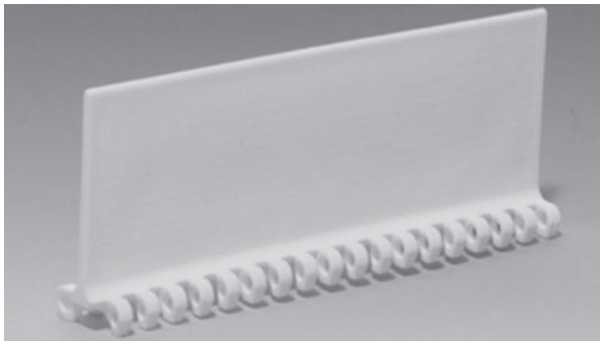
EZ Track™ and EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	2.3	58	2.3	58	1.0	25	1.0	1.0	25	25	
16 (1.92%)	3.1	79	3.1	79	1.0	25	1.0, 1-1/16, 1-1/8, 1-1/4		25, 30		
18 (1.52%)	3.5	89	3.5	89	1.0	25	1.0	1.0		25	
20 (1.23%)	3.8	97	3.8	97	1.0	25		1.5		40	
24 (0.86%)	4.6	117	4.7	119	1.0	25	1.0, 1-1/16, 1-1/8, 1-3/16, 1-1/4		25, 30		
26 (0.73%)	5.1	130	5.1	130	1.0	25	1.0, 1-1/16, 1-1/8, 1-1/4	1.5	25, 30	40	
32 (0.48%)	6.1	155	6.2	157	1.0	25	1.0, 1-1/16, 1-1/8, 1-3/16, 1-1/4 1-1/2		25, 30, 40		

Flat Top Base Flights (Streamline)

Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal, detectable polypropylene A22

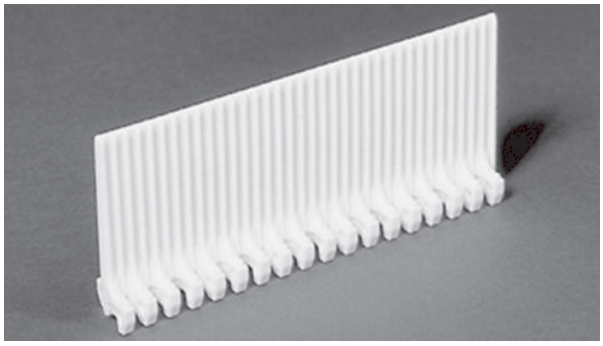
- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Flat Top base Streamline flights are used in both Flat Top and Flush Grid belts.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- For recommended minimum indent, contact Intralox Customer Service.



Flush Grid Nub Top Base Flights (No-Cling)

Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal
3	76	Polypropylene, acetal

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- For recommended minimum indent, contact Intralox Customer Service.



Sideguards

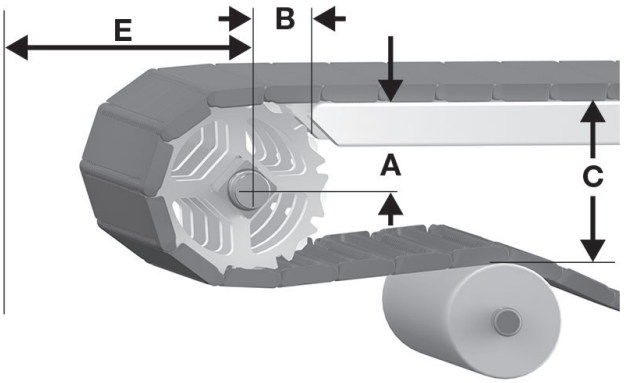
Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal

- Fastens to belt with hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 8-, 12-, 16-, and 18-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 24-tooth and larger sprockets.
- Standard gap between sideguards and flight edge: 0.2 in (5 mm).
- Minimum indent: 1 in (25 mm).



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 46: A, B, C, and E drive dimensions

S1100 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Embedded Diamond Top, Flat Top, Flush Grid, Perforated Flat Top[a]										
1.6	41	8	0.53-0.59	13-15	1.02	26	1.70	43	1.00	25
2.3	58	12	0.93-0.97	24-25	1.31	33	2.40	61	1.37	35
3.1	79	16	1.31	33	1.51	38	3.20	81	1.75	44
3.5	89	18	1.51	38	1.66	42	3.60	91	1.94	49
3.8	97	20	1.70	43	1.77	45	3.79	96	2.13	54
4.6	117	24	2.08	53	1.92	49	4.75	121	2.60	66
5.1	130	26	2.28	58	1.96	50	5.14	131	2.73	69
6.1	155	32	2.85	72	2.20	56	6.20	155	3.30	84
Flush Grid Friction Top[a], Flush Grid Friction Top, No Indent[a]										
1.6	41	8	0.53-0.59	13-15	1.04	27	1.61	41	1.08	27
2.3	58	12	0.93-0.97	24-25	1.30	33	2.36	60	1.46	37
3.1	79	16	1.31	33	1.55	39	3.12	79	1.84	47
3.5	89	18	1.51	38	1.66	42	3.50	89	2.03	51
3.8	97	20	1.70	43	1.77	45	3.88	98	2.22	56
4.6	117	24	2.08	53	1.97	50	4.64	118	2.60	66
5.1	130	26	2.28	58	2.06	52	5.02	127	2.79	71
6.1	155	32	2.85	72	2.25	57	6.16	157	3.36	85

S1100 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid Nub Top[a]										
1.6	41	8	0.53-0.59	13-15	1.04	27	1.57	40	1.05	27
2.3	58	12	0.93-0.97	24-25	1.30	33	2.32	59	1.42	36
3.1	79	16	1.31	33	1.55	39	3.08	78	1.80	46
3.5	89	18	1.51	38	1.66	42	3.46	88	1.99	51
3.8	97	20	1.70	43	1.70	43	3.84	98	2.18	55
4.6	117	24	2.08	53	1.97	50	4.60	117	2.56	65
5.1	130	26	2.28	58	2.06	52	4.98	127	2.75	70
6.1	155	32	2.85	72	2.25	57	6.13	156	3.32	84
Cone Top[a]										
1.6	41	8	0.54-0.60	14-15	1.04	26	1.66	42	1.13	29
2.3	58	12	0.93-0.97	24-25	1.30	33	2.41	61	1.50	38
3.1	79	16	1.32	34	1.55	39	3.17	81	1.88	48
3.5	89	18	1.51	38	1.66	42	3.55	90	2.07	53
3.8	97	20	1.71	43	1.70	43	3.93	100	2.26	57
4.6	117	24	2.09	53	1.96	50	4.69	119	2.64	67
5.1	130	26	2.28	58	2.05	52	5.07	129	2.83	72
6.1	155	32	2.86	73	2.24	57	6.22	158	3.41	87

[a] For alternate layouts for the B dimension, see Anti-Sag Wearstrip Configuration.

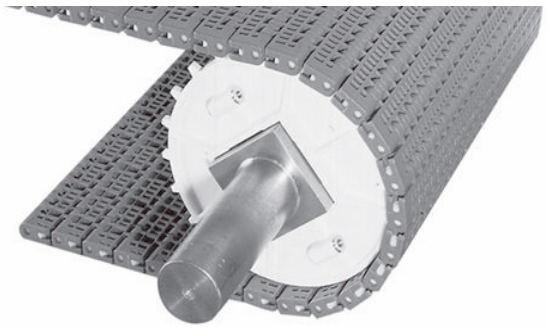
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1100 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
1.6	41	8	0.058	1.5
2.3	58	12	0.040	1.0
3.1	79	16	0.029	0.7
3.5	89	18	0.026	0.7
3.8	97	20	0.024	0.6
4.6	117	24	0.020	0.5
5.1	130	26	0.018	0.4
6.1	155	32	0.015	0.4

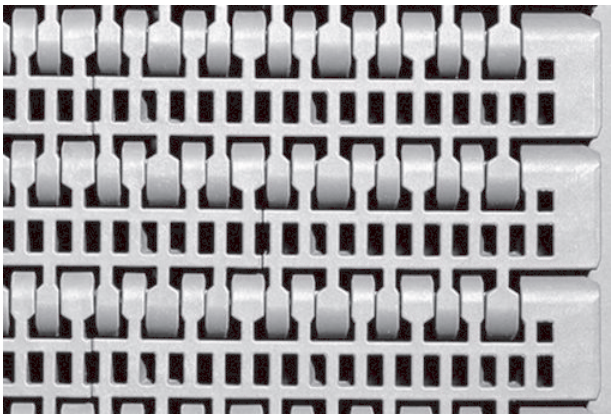
Flush Grid

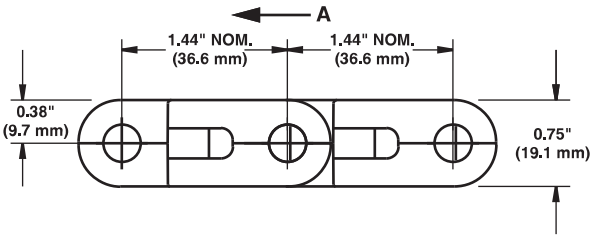
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	24%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 0.75 in (19.1 mm), which provides superior belt strength and stiffness.





A preferred run direction

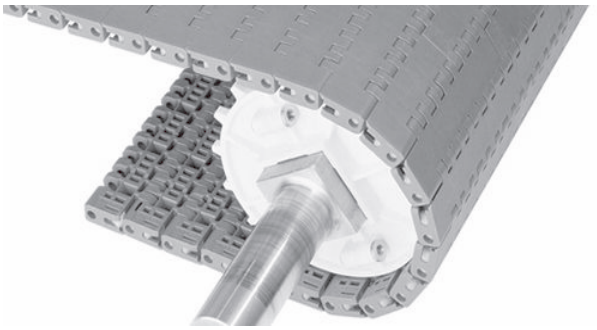
Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene composite	Polypropylene	3,300	48,200	34 to 220	1 to 104	2.87	14.01

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2,000 lbf/ft (29,000 N/m).

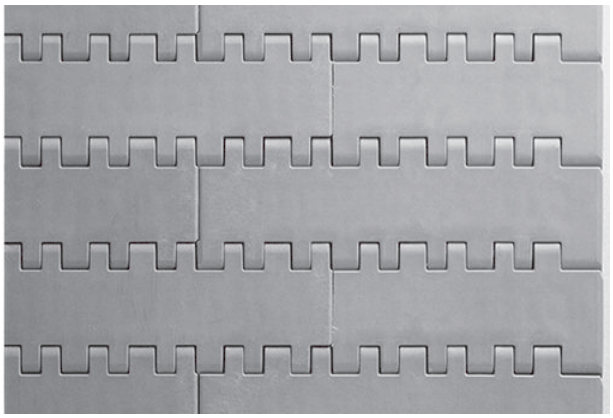
Flat Top

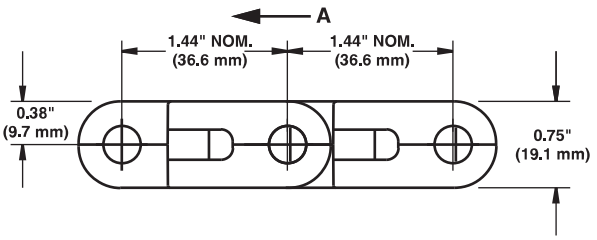
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Module thickness is 0.75 in (19.1 mm), which provides superior belt strength and stiffness.
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Molded split plastic sprockets available for easy installation.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Belt strength for narrow belts:
  - 3,750 lbf/ft (54,700 N/m) for belt widths under 60 in (1,524 mm). Contact Intralox Customer Service if a more precise belt strength is required.
  - 3,250 lbf/ft (47,400 N/m) for belt widths under 30 in (762 mm)
  - 2,750 lbf/ft (40,100 N/m) for belt widths under 12 in (305 mm)





A preferred run direction

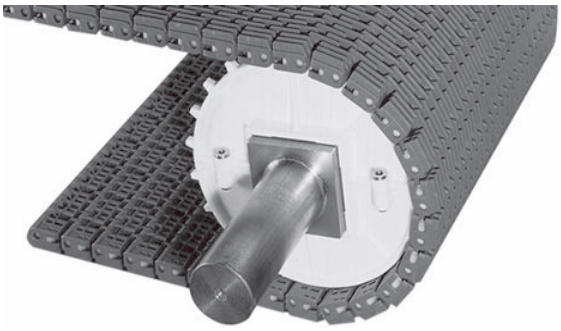
Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene composite	Polypropylene composite	4,000	58,400	-20 to 220	-29 to 104	3.17	15.45
EC polypropylene composite	Polypropylene composite	4,000	58,400	-20 to 220	-29 to 104	3.2	15.66

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2,000 lbf/ft (29,000 N/m). The belt strength for narrow belts is reduced to 3,750 lbf/ft (54,700 N/m) for belt widths under 60 in (1524 mm), 3,250 lbf/ft (47,400 N/m) for belt widths under 30 in (762 mm), and 2,750 lbf/ft (40,100 N/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1,524 mm).

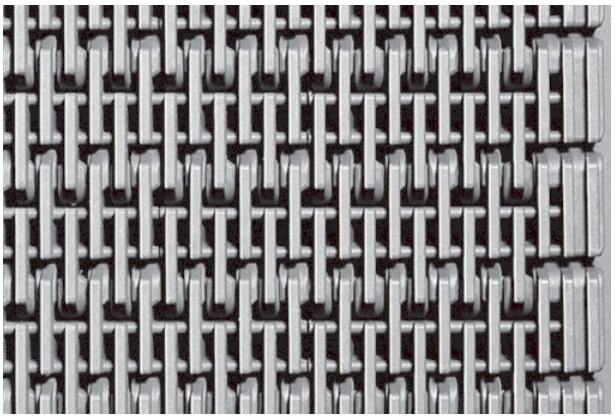
Raised Rib

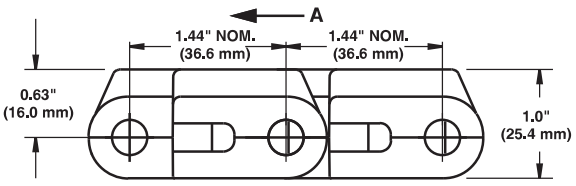
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Open Area	24%	
Product Contact Area	24%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 1.0 in (25.4 mm), which provides superior belt strength and stiffness.





A preferred run direction

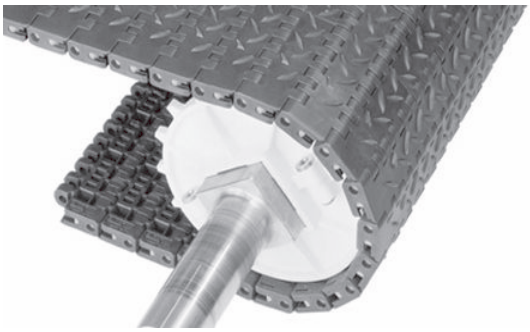
Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene composite	Polypropylene	3,300	48,200	34 to 220	1 to 104	3.3	16.11

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2000 lbf/ft (29,000 N/m).

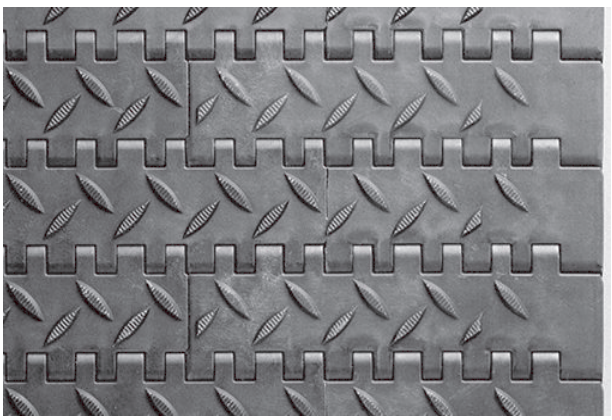
Non Skid

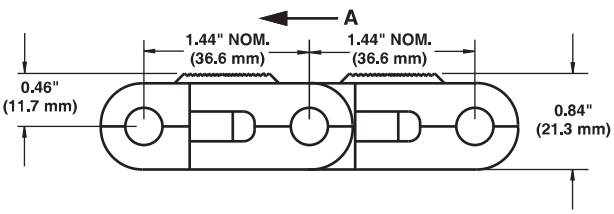
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion. Engineered resin is a static dissipative material that does not rely on moisture to dissipate a charge, so it is effective in all environments.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Molded split plastic sprockets available for easy installation.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- 1.44 in (36.6 mm) pitch allows use of smaller drive sprockets than traditional moving-platform belts, providing tighter transfers and requiring shallower floor trenches for installation.
- Module thickness: 0.75 in (19.1 mm) provides superior belt strength and stiffness. In the preferred run direction, S1200 belts are rated 4,000 lbf/ft (58,400 N/m).
- Non Skid indent: 1.0 in (25.4 mm).





A preferred run direction

Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
EC polypropylene composite	Polypropylene composite	4,000	58,400	-20 to 220	-29 to 104	3.21	15.65

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2,000 lbf/ft (29,000 N/m). The belt strength for narrow belts is reduced to 3,750 lbf/ft (54,700 N/m) for belt widths under 60 in (1524 mm), 3,250 lbf/ft (47,400 N/m) for belt widths under 30 in (762 mm), and 2750 lbf/ft (40,100 N/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1,524 mm).

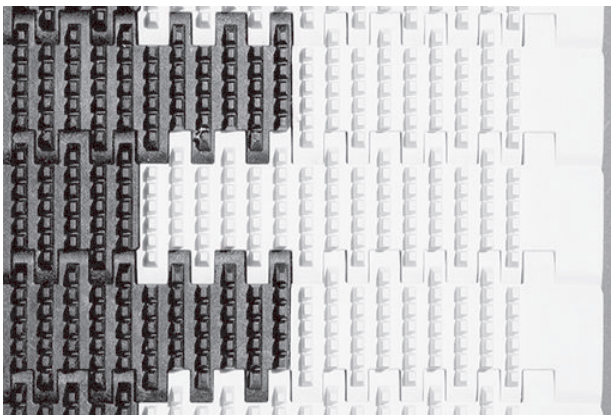
Non Skid Raised Rib

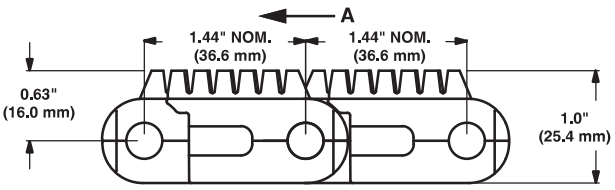
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Product Contact Area	10%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Tread pattern provides a non-skid walking surface to increase safety.
- Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are glass-reinforced polypropylene.
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion. Engineered resin is a static dissipative material that does not rely on moisture to dissipate a charge, so it is effective in all environments.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Not recommended for product accumulation conditions.
- For information about friction values between product and belt, contact Intralox Customer Service
- 1.44 in (36.6 mm) pitch allows use of smaller drive sprockets than traditional moving-platform belts, providing tighter transfers and requiring shallower floor trenches for installation.
- Rib indent: 1.0 in (25 mm).





A preferred run direction

Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
EC polypropylene composite	Polypropylene composite	4,000	58,400	-20 to 220	-29 to 104	3.58	17.48
UV resistant acetal[b]	Acetal	2,500	36,500	-50 to 150	-46 to 66	4.51	22.02

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2,000 lbf/ft (29,000 N/m). The belt strength for narrow belts is reduced to 3,750 lbf/ft (54,700 N/m) for belt widths under 60 in (1,524 mm), 3,250 lbf/ft (47,400 N/m) for belt widths under 30 in (762 mm), and 2,750 lbf/ft (40,100 N/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1,524 mm).

[b] UV resistant acetal requires special sprockets. Contact Intralox Customer Service when ordering sprockets for this belt.

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
9	229	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	7	5	4
42	1,067	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	8	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
120	3,048	21	15	11
144	3,658	25	17	13
145	3,683	25	18	14
146	3,708	25	18	14
147	3,734	25	18	14
148	3,759	25	18	14
149	3,785	25	18	14
150	3,810	25	18	14
151	3,835	25	18	14
152	3,861	25	18	14
153	3,886	25	18	14
154	3,912	25	19	14
155	3,937	25	19	14
156	3,962	27	19	14
157	3,988	27	19	15
158	4,013	27	19	15
159	4,039	27	19	15
160	4,064	27	19	15
161	4,089	27	19	15
162	4,115	27	19	15
163	4,140	27	20	15
164	4,166	27	20	15
165	4,191	27	20	15
166	4,216	27	20	15

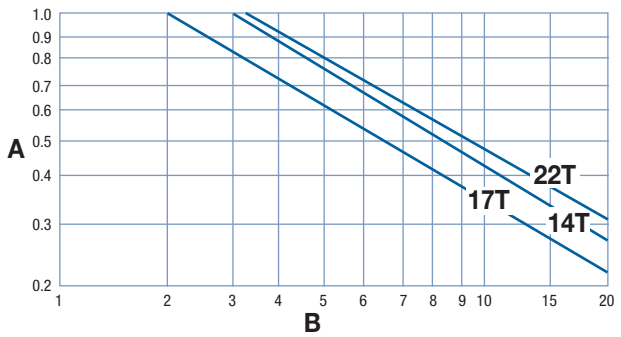
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
167	4,242	27	20	15
168	4,267	29	20	15
169	4,293	29	20	16
170	4,318	29	20	16
171	4,343	29	20	16
172	4,369	29	21	16
173	4,394	29	21	16
174	4,420	29	21	16
175	4,445	29	21	16
176	4,470	29	21	16
177	4,496	29	21	16
178	4,521	29	21	16
179	4,547	29	21	16
180	4,572	31	21	16
181	4,597	31	22	17
182	4,623	31	22	17
183	4,648	31	22	17
184	4,674	31	22	17
185	4,699	31	22	17
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 6 in (152 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

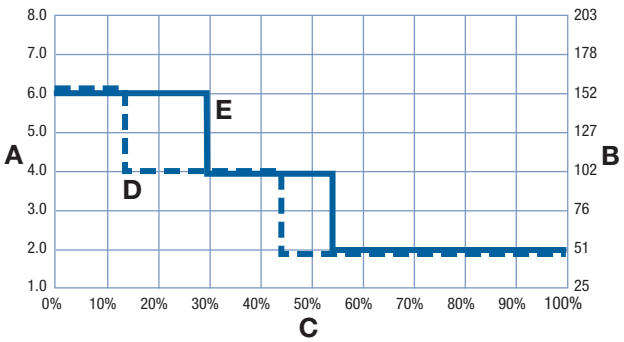
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized

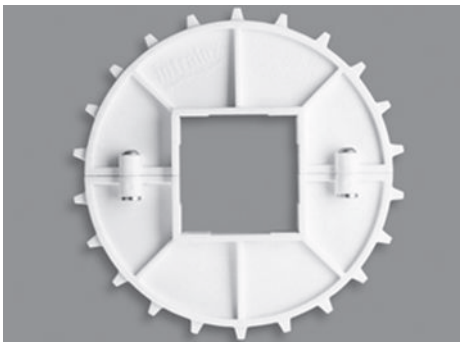


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D dashed line: polypropylene rods
E solid line: polypropylene composite rods

SERIES 1200

Plastic Split Sprocket

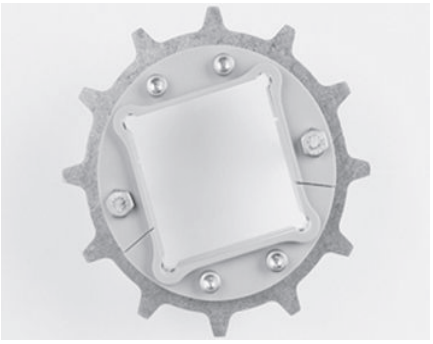
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in[b]	Round mm[a]	Square mm
14 (2.51%)	6.5	165	6.3	161	1.5	38		1.5, 2.5		
17 (1.70%)	7.9	201	7.7	196	1.5	38		2.5		
22 (1.02%)	10.2	259	10.1	255	1.5, 1.67	38, 44	3.5	2.5, 3.5		90



[a] Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
[b] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

Split Metal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	5.6	142	5.4	137	1.7	43		2.5		
14 (2.51%)	6.5	165	6.3	161	1.7	43		1.5, 2.5		
22 (1.70%)	10.2	259	10.1	255	1.7	43		2.5, 3.5		



Hold Down Tabs

- Available for Non Skid and Flat Top belts.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between the horizontal sections and angled sections. This approach reduces initial system cost, as well as ongoing maintenance cost and effort.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- Place tabs in every other row (2.9 in [73.2 mm]) along the length of the belt. Tabs can be placed every fourth row (5.8 in [146.3 mm]) for lightly loaded applications.
- Each line of tabs along the length of the belt reduces the available number of sprockets by two. Belt rating is reduced by 1,300 lbf (5,780 N) for each line of tabs.
- When designing conveyors, include a carryway radius at the transition between horizontal sections and angled sections. This radius must be at least 48 in (1.22 m) for belts that are loaded near the belt strength rating. This radius is one of the most important factors to consider when designing highly loaded conveyors that utilize hold down tabs.
- Strength rating for each hold down tab: 100 lbf (445 N) of force perpendicular to the hold down surface.

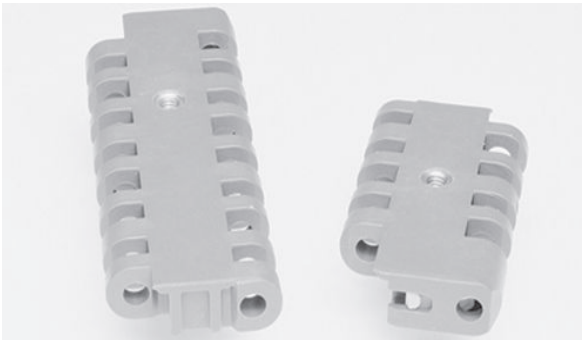


Insert Nuts

Available Base Belt Style - Material	Available Insert Nut Sizes
Flat Top - Polypropylene Composite	0.3125 in to 18 in (8 mm to 1.25 mm)

Belt Material	Maximum Fixture Weight		Fastener Torque Specification	
	lb/nut[a]	kg/nut[a]	in-lbf	N-m
Polypropylene Composite	355	155	100	11.3

- Insert Nuts allow easy attachment of fixtures to the belt.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for your application.
- Ensure attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- Do not locate sprockets in-line with the insert nuts.
- For attachment bases that extend across multiple rows, ensure reduced backbend is considered during design.
- Minimal indent from the edge of the belt: 0.833 in (21 mm) for odd-width belts, 1.833 in (47 mm) for even-width belts.
- Minimal distance between nuts across the width of the belt: 1.33 in (34 mm).
- Spacing along the length of the belt: 1.44 in (36.6 mm) increments.

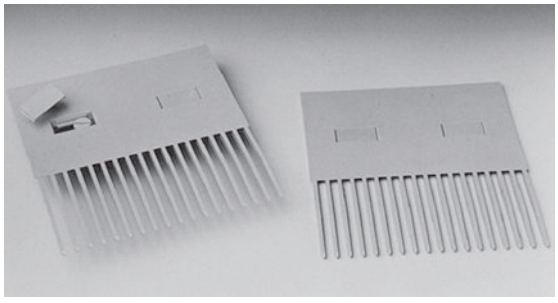


[a] Fixture weight only. Product weight need not be included.

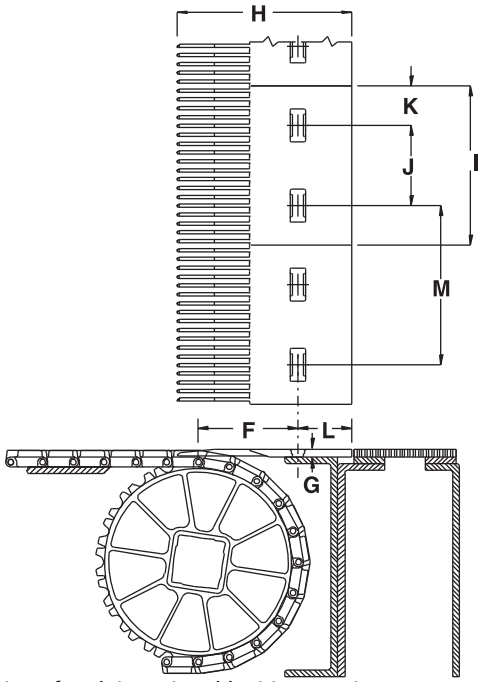
Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Polypropylene

- Identical to Series 400 finger transfer plates.
- Eliminates product transfer and tipping problems. The fingers extend between the belt ribs to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
-

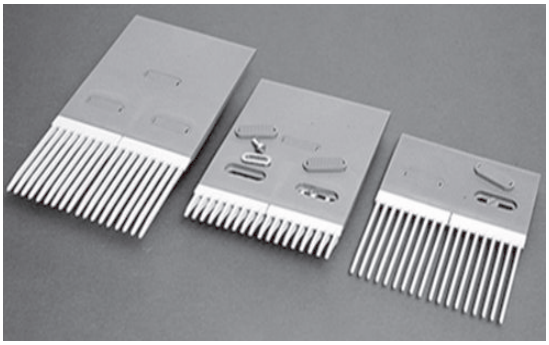


Dimensional Requirements for S1200 Finger Transfer Plate Installation		
	in	mm
F	3.50	89
G	0.31	8
H	7.25	184
I	5.91	150
J	3.00	76
K	1.45	37
L	2.00	51
M	6.000	152.4



M spacing between finger transfer plates, at ambient temperature
Figure 47: Finger transfer plate and conveyor assembly

Two-Material Finger Transfer Plates

Available Widths		No. of Fingers	Available Materials	
in	mm			
6	152	18	Glass-filled thermoplastic fingers, acetal backplate	

Available Configurations

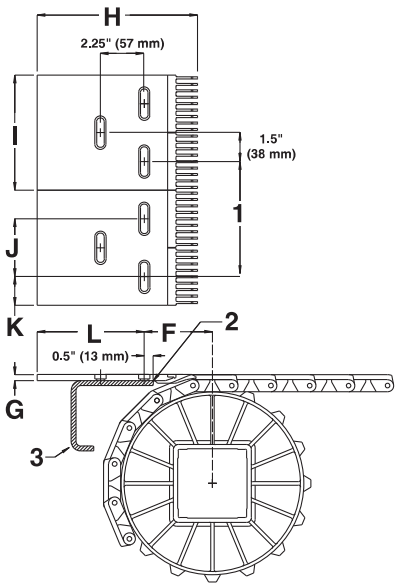
Standard	Standard Extended Back	Glass-Handling
Long fingers with a short backplate	Long fingers with an extended backplate	Short fingers with extended backplate
		short fingers with short backplate[a]
		mid-length fingers with a short backplate
		mid-length fingers with extended backplate

- Provides high-strength fingers combined with a low-friction backplate.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs allowing a smooth, continuous product flow as the belt engages the sprockets.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates (FTPs).
- Mounting hardware for the glass-handling two-material FTPs is sold separately. Mounting hardware consists of stainless steel oval washers and bolts, which give more secure fastening for tough, glass applications.
- For applications that require better chemical resistance, Intrlox offers a single-material polypropylene standard FTP. Mounting hardware for this finger transfer plate includes plastic shoulder bolts and snap-cap bolt covers.
- Long fingers provide good support for unstable products like PET containers and cans. Short fingers are sturdy enough for harsh, broken-glass applications. These fingers are designed to resist breaking, but if confronted with deeply embedded glass, the individual fingers yield and break off, preventing belt or frame damage.
- Short backplate has two attachment slots and the extended backplate has three attachment slots.
- S400 and S1200 use the same FTPs.
- For best product transfer, use 10.2 in (259 mm) PD, 22-tooth sprockets with glass-handling finger transfer plates. 10.2 in (259 mm) PD 22-tooth sprockets are the maximum-size sprockets to use with short finger glass-handling finger transfer plates.

[a] Contact Intralox Customer Service for lead times.

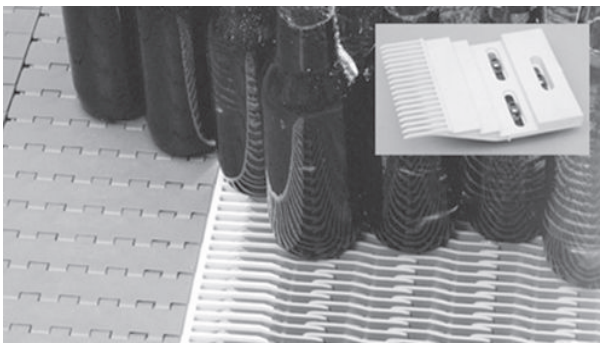
Dimensional Requirements for S1200 Two-Material Finger Transfer Plate Installation

	Standard Long Fingers				Glass-Handling Short Fingers		Glass-Handling Mid-Length Fingers	
	Short Back		Extended Back		Extended Back			
	in	mm	in	mm	in	mm	in	mm
F	3.50	89	3.50	89	3.50	89	3.50	89
G	0.31	8	0.31	8	0.31	8	0.31	8
H	7.25	184	10.75	273	8.26	210	9.04	230
I	5.91	150	5.91	150	5.91	150	5.91	150
J	3.00	76	3.00	76	3.00	76	3.00	76
K	1.45	37	1.45	37	1.45	37	1.45	37
L	2.00	51	5.50	140	5.50	140	5.50	140
1	6.0	152.4	6.0	152.4	6.0	152.4	6.0	152.4



1 spacing between finger transfer plates, at ambient temperature
2 0.5 in (13 mm) radius (leading edge of frame member)
3 frame member
Figure 48: Finger transfer plate and conveyor assembly

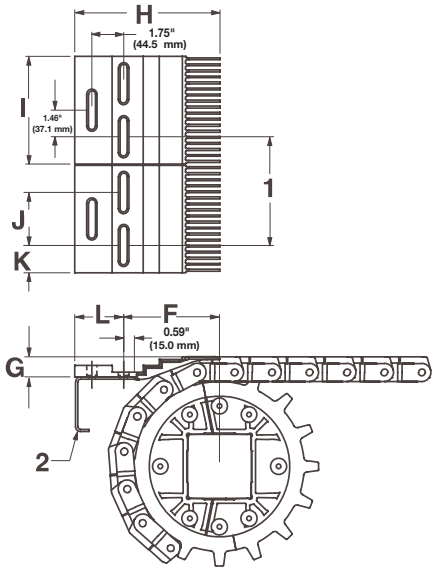
Self-Clearing Finger Transfer Plates[a]				
Available Width		No. of Fingers	Available Materials	
in	mm			
6	152	18	Glass-Filled Thermoplastic	



- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for S1200 Self-Clearing Finger Transfer Plate Installation[a]		
	Self-Clearing	
	in	mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.93	150.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8
1	6.000	152.4

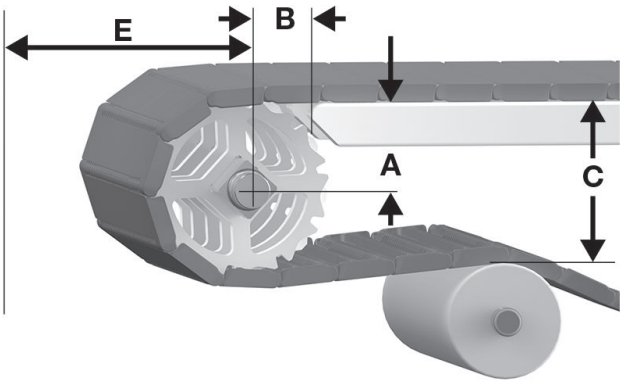


1 spacing between finger transfer plates, at ambient temperature
2 frame member
Figure 49: Finger transfer plate and conveyor assembly

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 50: A, B, C, and E drive dimensions

S1200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.56	141	3.22	82
6.5	165	14	2.78-2.87	71-73	2.35	60	6.48	165	3.87	98
7.9	201	17	3.48-3.55	88-90	2.62	67	7.85	199	4.55	116
10.2	259	22	4.64-4.69	118-119	3.02	77	10.13	257	5.69	145
Non Skid Raised Rib, Raised Rib										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.81	148	3.47	88
6.5	165	14	2.78-2.87	71-73	2.35	60	6.73	171	4.12	105
7.9	201	17	3.48-3.55	88-90	2.62	67	8.10	206	4.80	122
10.2	259	22	4.64-4.69	118-119	3.02	77	10.38	264	5.94	151
Non Skid										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.65	144	3.30	84
6.5	165	14	2.78-2.86	71-73	2.34	59	6.56	167	3.76	96
7.9	201	17	3.51-3.58	89-91	2.57	65	7.99	203	4.47	114
10.2	259	22	4.67-4.73	119-120	3.02	77	10.29	261	5.62	143

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

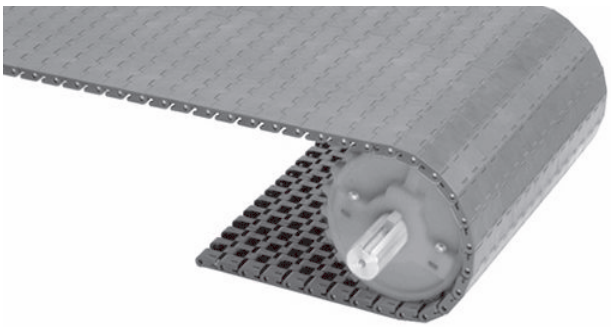
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1200 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.6	142	12	0.095	2.4
6.5	165	14	0.081	2.1
7.9	201	17	0.067	1.7
10.2	259	22	0.052	1.3

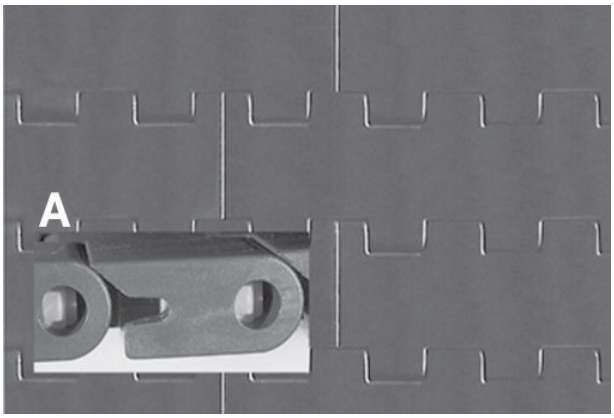
Flat Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

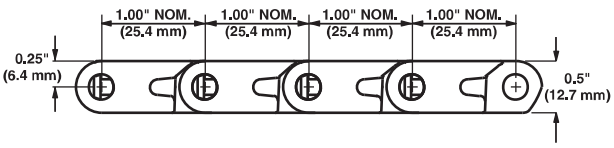


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Flat Top surface provides excellent lateral movement of containers. Ideal for container handling.
- Slidelox are available in polypropylene or acetal. For Easy Release PLUS belts, use polypropylene Slidelox. For Easy Release traceable polypropylene belts, use detectable polypropylene Slidelox.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough glass applications.



A Inset: Slidelox edge



Belt Data

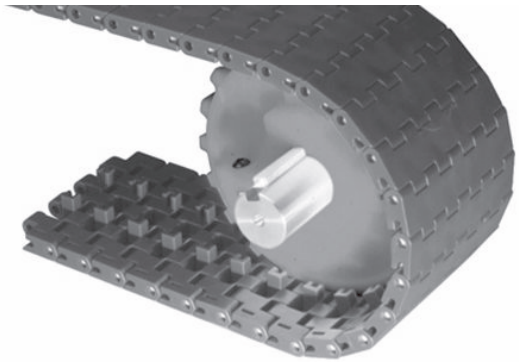
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2,500	36,500	-50 to 200	-46 to 93	2.75	13.43
Polypropylene	Nylon	1,800	26,300	34 to 220	1 to 104	1.85	9.03
HHR nylon	Nylon	2,000	29,200	-50 to 310	-46 to 154	2.32	11.33
HSEC acetal	Nylon	1,600	23,400	-50 to 200	-46 to 93	2.69	13.13

Mold to Width Flat Top

	in	mm
Pitch	1.00	25.4
Molded Widths	3.25	83
	4.5	114
	6.0	152
	7.5	191
	-	85.0
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Flat Top provides excellent lateral movement of containers. Ideal for container handling.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic.
- Most sprockets use a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.
- Robust design offers excellent belt and sprocket durability, especially in tough, glass applications.
- Sprocket placement:
  - Use one sprocket on 3.25 in (83 mm) mold to width belts, and on 4.5 in (114 mm) tabbed mold to width belts.
  - Use one or two sprockets on 4.5 in (114 mm) no tab mold to width belts.
  - Use up to three sprockets on 6.0 in (152 mm) belts, and on 7.5 in (191 mm) mold to width belts.
- Optional tracking tabs fit into single barreled belt wearstrip with 1.75 in (44.5 mm) spacing.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Available in 10 ft (3 m) increments.





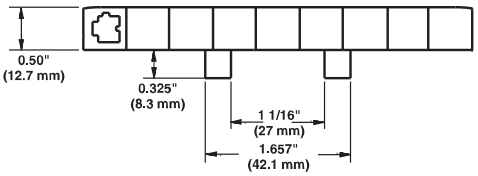
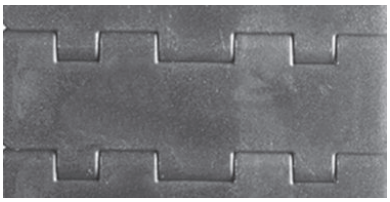


Figure 51: S1400 Mold to Width Flat Top



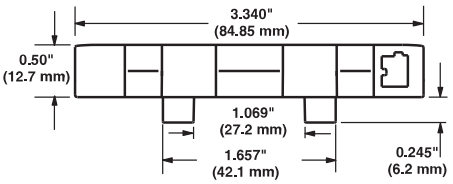


Figure 52: S1400 Mold to Width Flat Top 85 mm

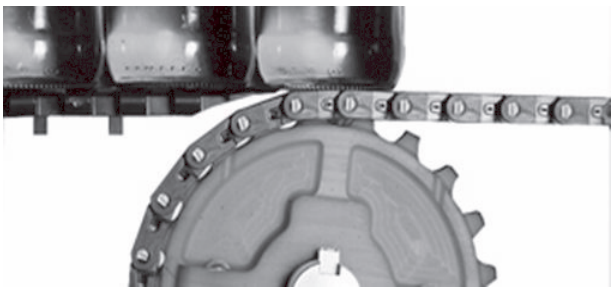
Belt Data

Belt Width		Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass			
								Tab		No Tab	
in	mm			lbf	N	°F	°C	lb/ft	kg/m	lb/ft	kg/m
3.25	83	Acetal	Nylon	700	3,110	-50 to 200	-46 to 93	0.80	1.19	0.75	1.12
–	85	Acetal	Nylon	700	3,110	-50 to 200	-46 to 93	0.80	1.19	–	–
4.5	114	Acetal	Nylon	850	3,780	-50 to 200	-46 to 93	1.13	1.68	1.07	1.59
6.0	152	Acetal	Nylon	1,200	5,340	-50 to 200	-46 to 93	1.40	2.08	1.35	2.01
7.5	191	Acetal	Nylon	1,550	6,890	-50 to 200	-46 to 93	1.75	2.60	1.71	2.54
6.0	152	Polypropylene	Nylon	850	3,780	34 to 220	1 to 104	0.95	1.14	0.90	1.34
3.25	83	HHR nylon	Nylon	700	3,110	-50 to 310	-46 to 154	0.85	1.27	–	–
4.5	114	HHR nylon	Nylon	850	3,780	-50 to 310	-46 to 154	0.95	1.41	1.07	1.59
6.0	152	HHR nylon	Nylon	1,200	5,340	-50 to 310	-46 to 154	1.18	1.76	1.35	2.01
7.5	191	HHR nylon	Nylon	1,550	6,890	-50 to 310	-46 to 154	1.47	2.19	1.71	2.54

[a] Ratings are based on non-tabbed belts using the maximum number of sprockets.

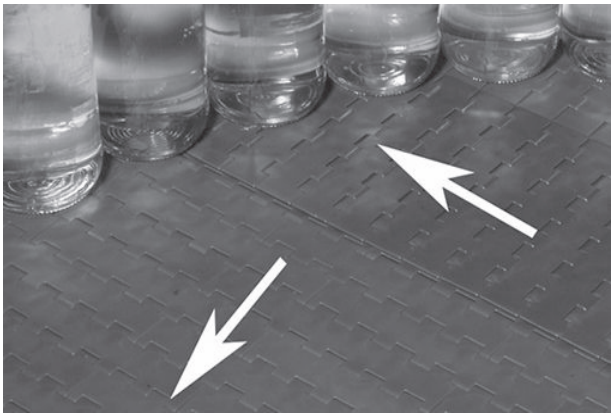
ONEPIECE™ Live Transfer Flat Top

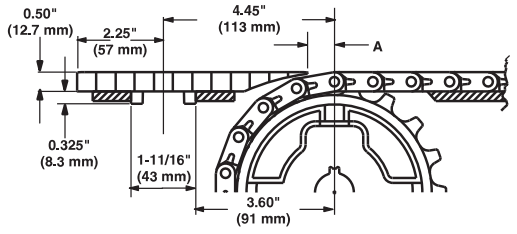
	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, flat surface with fully flush edges.
- Transfer edge is an integral part of the belt.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Nylon rods provide superior wear resistance.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets use the split design, so shafts do not have to be removed for retrofits and changeovers.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Provides excellent lateral movement of PET, glass, and other containers. Provides excellent belt and sprocket durability, especially in tough, glass applications.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See 90-Degree Container Transfers.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Available in 10 ft (3 m) increments.



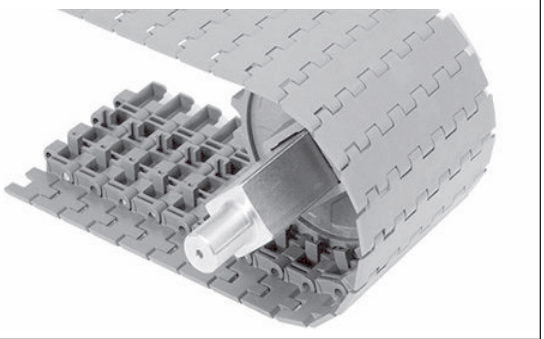


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal	Nylon	850	3,780	-50 to 200	-46 to 93	1.25	1.86

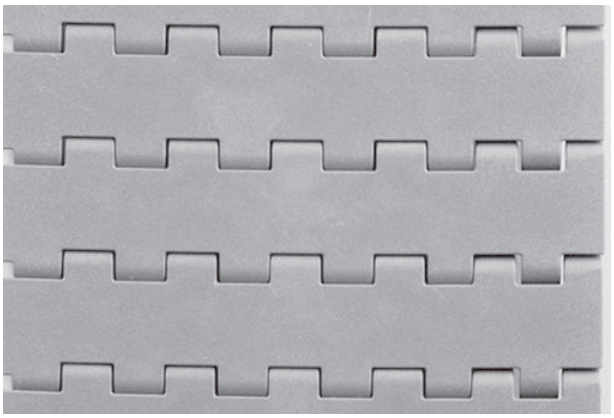
6 in (152 mm) Flat Top Mold to Width Self-Clearing Edge

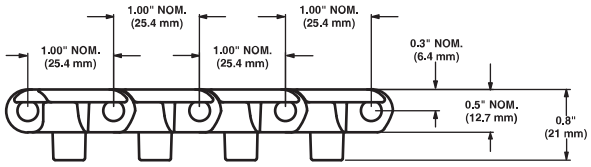
	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	-	-
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Belt is bi-directional. It can be used for left-hand and right-hand transfers.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- All sprockets are plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Provides 100% self-clearing transfers of all container types, including energy drink cans, when used with finger transfer plates.



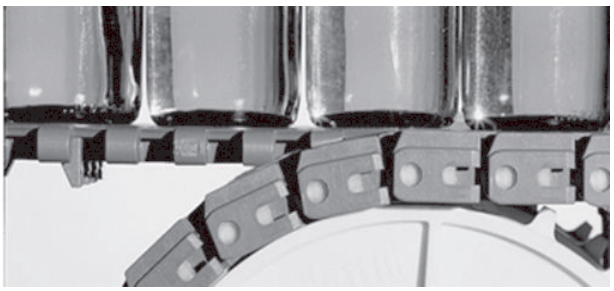


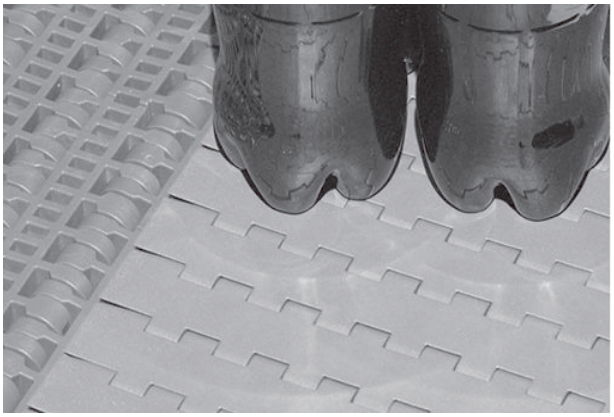
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal	Nylon	1,000	4,450	-50 to 200	-46 to 93	1.08	1.61

ONEPIECE™ 9.3 in (236 mm) Live Transfer Flat Top

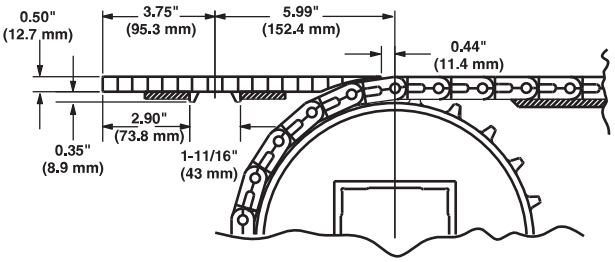
	in	mm
Pitch	1.00	25.4
Molded Width	9.3	236
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, flat surface with fully flush edges.
- Transfer edge is an integral part of this belt.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Nylon rods provide superior wear resistance.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Provides excellent lateral movement of PET, glass, and other containers. Provides excellent belt and sprocket durability, especially in tough, glass applications.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See 90-Degree Container Transfers.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Tracking tab height: 0.35 in (8.9 mm).
- Tab spacing: 1.6875 in (43 mm).
- Available in 10 ft (3 m) increments.

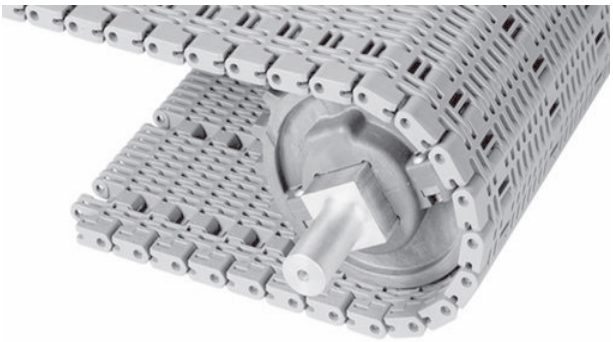


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal	Nylon	1,550	6,890	-50 to 200	-46 to 93	1.86	2.77

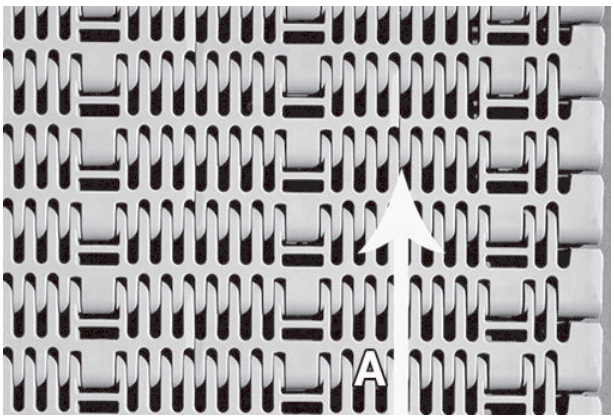
Flush Grid

	in	mm
Pitch	1.0	25.4
Minimum Width	9	229
Width Increments	1.0	25.4
Opening Size (approximate)	0.17 × 0.30	4.2 × 7.6
Open Area	21%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

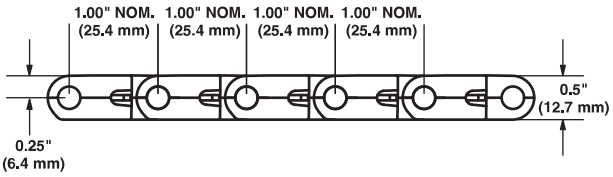


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Polypropylene belts are grey with blue polypropylene Slidelox. Acetal belts are grey with yellow acetal Slidelox.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimum sprocket spacing: 3 in (76.2 mm).
- Maximum recommended sprocket spacing: 6 in (152.4 mm).
- Installation is the same as current S1400 belts, with the addition of a locked sprocket location chart and preferred run direction.
- Recommended adjusted belt pull: greater than 900 lbf/ft (13,100 N/m).



A run direction



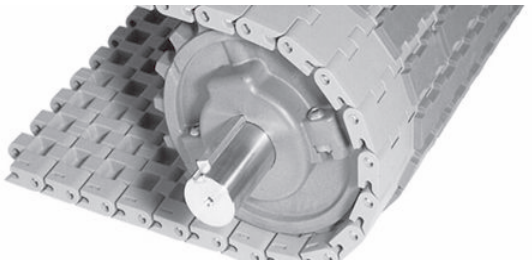
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,800	26,300	34 to 220	1 to 104	1.61	7.86
Polypropylene	Nylon	1,800	26,300	34 to 220	1 to 104	1.66	8.10
Acetal	Nylon	2,500	36,500	-50 to 200	-46 to 93	2.52	12.30

[a] Belt strength is divided by 2 when using 6 in (15.2 cm) sprocket spacing; full strength when using 3 in (7.6 cm) sprocket spacing.

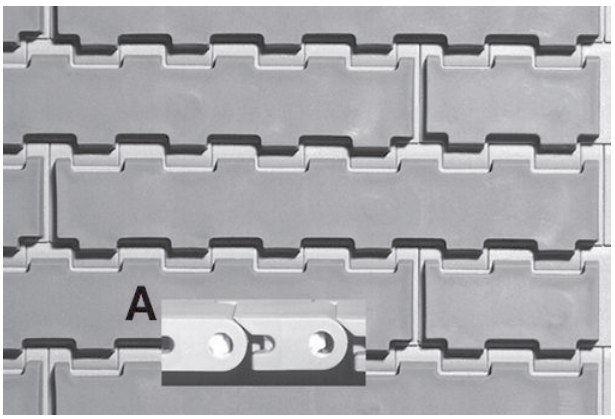
Flat Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

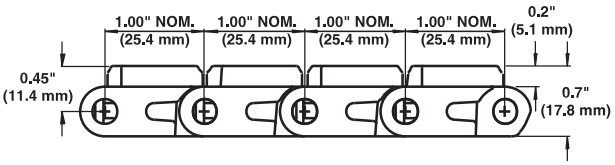


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with grey rubber, grey polypropylene with black rubber, white polypropylene with white rubber, and black polyethylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Standard indents for Friction Top surface: 2.0 in (50.8 mm) and 0.22 in (5.6 mm). Indent availability varies by material. Contact Intralox Customer Service for more information.



A Inset: Slidelox rod retention feature



Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/grey	Nylon	1,800	26,300	34 to 150	1 to 66	2.62	12.79	64 Shore A		
Polypropylene	Grey/black	Nylon	1,800	26,300	34 to 150	1 to 66	2.62	12.79	55 Shore A	b	
Polypropylene	White/white	Nylon	1,800	26,300	34 to 150	1 to 66	2.62	12.79	55 Shore A	b	c
Polypropylene	Black/TPV 65A black	Nylon	1,800	26,300	34 to 150	1 to 66	2.62	12.79	65 Shore A		
Polyethylene	Black/black	Nylon	1,000	14,600	-50 to 120	-46 to 49	2.70	13.18	50 Shore A	b	

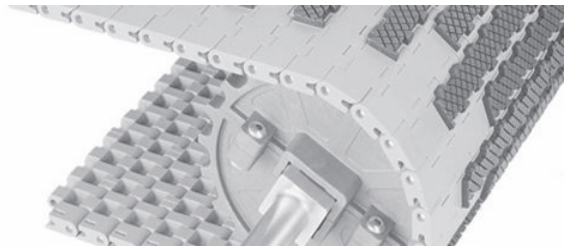
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

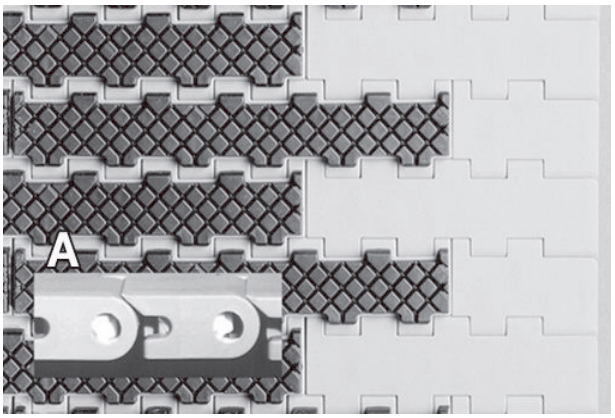
Square Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	1.00	25.4
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

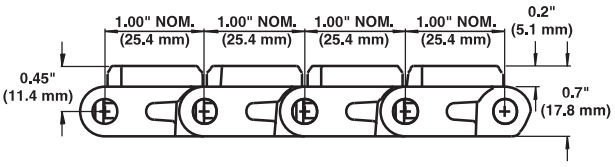


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber and black polyethylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).



A Inset: Slidelox rod retention feature



Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	1,800	26,300	34 to 150	1 to 66	2.60	12.69	50 Shore A	b	
Polyethylene	Black/black	Nylon	1,000	14,600	-50 to 120	-46 to 49	2.68	13.08	50 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

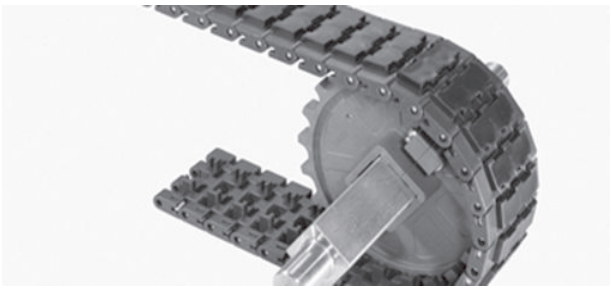
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

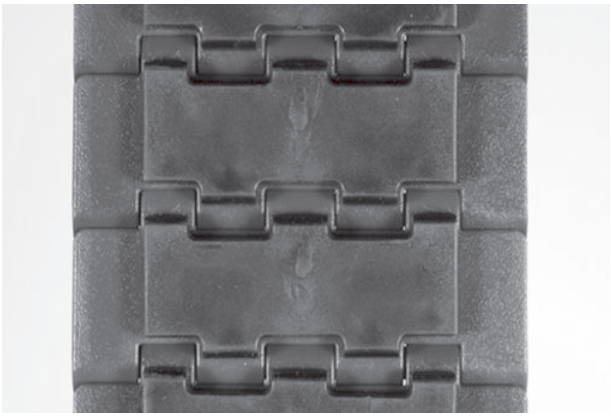
3.25 in Mold to Width Flat Friction Top with Tabs

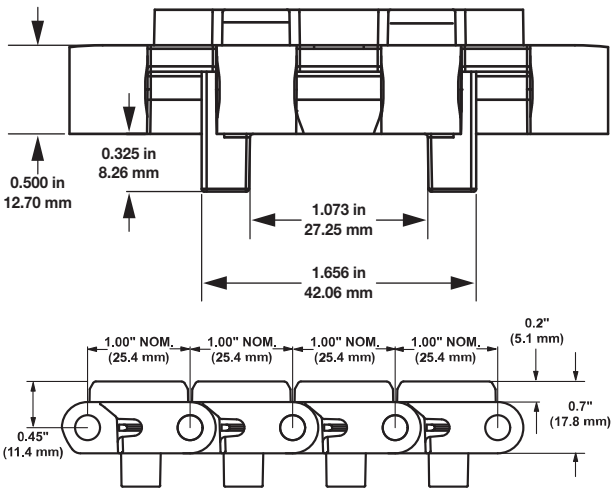
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Available in blue acetal with black rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- One sprocket can be placed on the 3.25 in (83 mm) Mold To Width tabbed belt.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Not recommended for product accumulation conditions.
- For information about friction values between product and belt, contact Intralox Customer Service
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Indent for Friction Top surface: 0.5 in (12.7 mm).
- Available in 10 ft (3 m) increments.







Belt Data

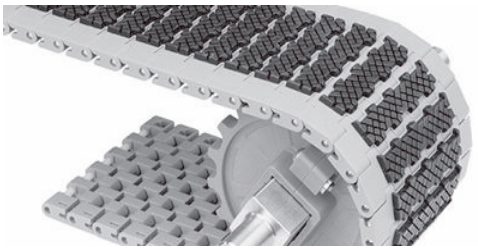
Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf	N	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Acetal	Blue/black	Nylon	700	3,110	-10 to 130	-23 to 54	0.94	1.40	54 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

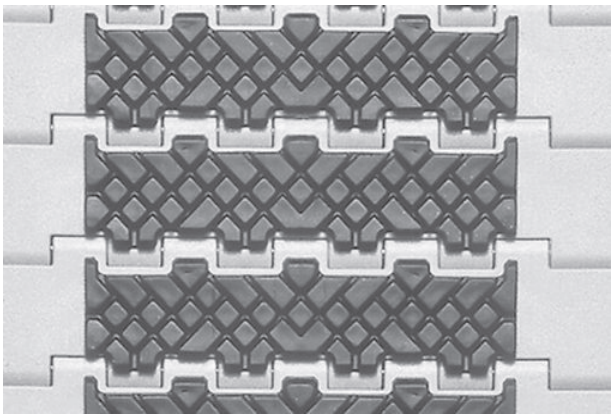
Mold to Width Square Friction Top

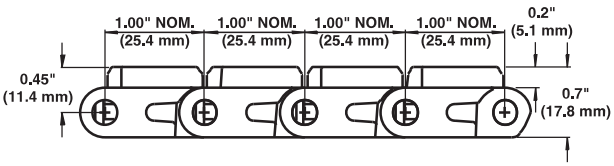
	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Up to three sprockets can be placed on the 6.0 in (152 mm) mold to width belt.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Rubber indent: 1.0 in (25.4 mm).
- Available in 10 ft (3 m) increments.





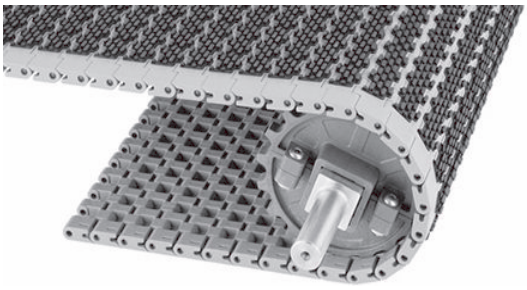
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf	N	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	800	3,560	34 to 150	1 to 66	1.15	1.71	50 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

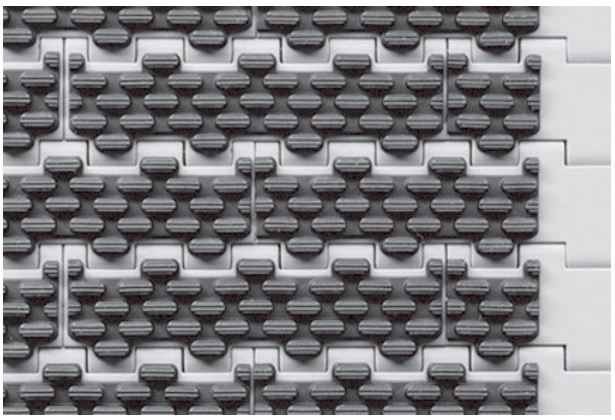
Oval Friction Top

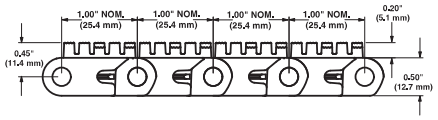
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Rubber indent: 1.0 in (25.4 mm).





Belt Data

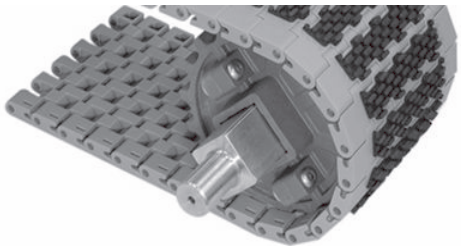
Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	1,800	26,300	34 to 150	1 to 66	2.29	11.18	55 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

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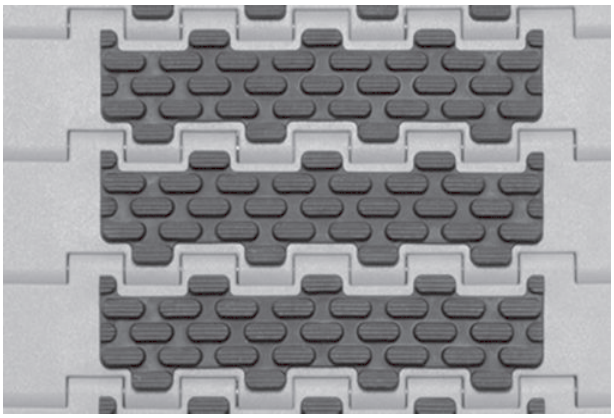
Mold to Width Oval Friction Top

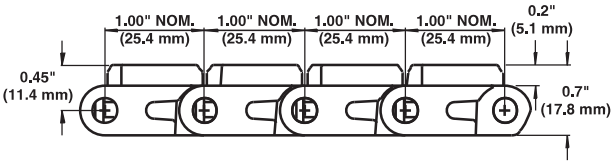
	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Up to three sprockets can be placed on the 6.0 in (152 mm) mold to width belt.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Rubber indent: 1.0 in (25.4 mm).
- Available in 10 ft (3 m) increments.





Belt Data

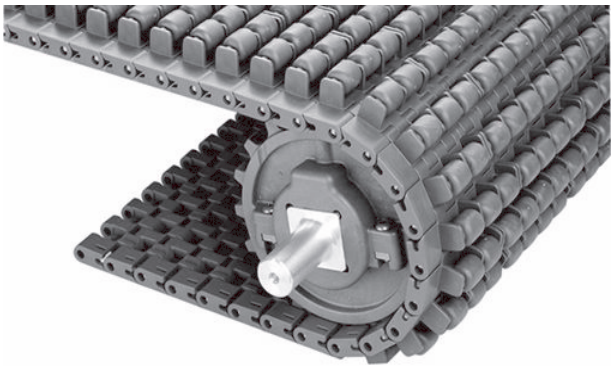
Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf	N	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	800	3,560	34 to 150	1 to 66	1.15	1.71	55 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

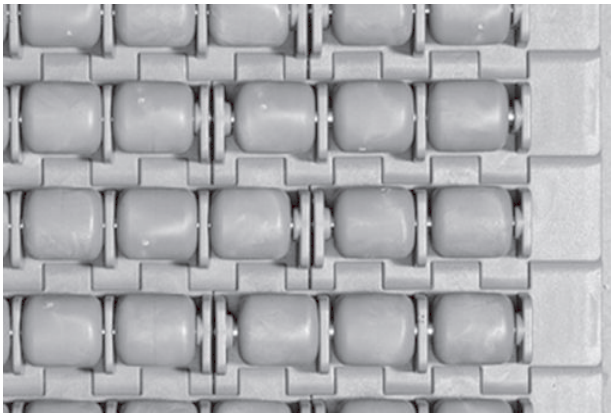
Roller Top

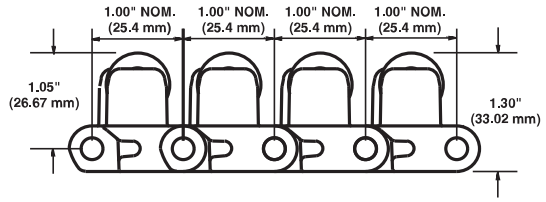
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Roller Diameter	0.70	17.8
Roller Length	0.83	21.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Available in white or grey acetal.
- 144 rollers per square foot of belt provide greater product-to-roller contact.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Stainless steel roller axle pins provide durability.
- Robust design offers excellent belt and sprocket durability.
- Allows low back-pressure accumulation for gentle product handling.
- Product accumulation load: 5%–10% of product weight.
- Roller spacing: 1 in (25.4 mm).
- Standard roller indent: 0.75 in (19 mm).





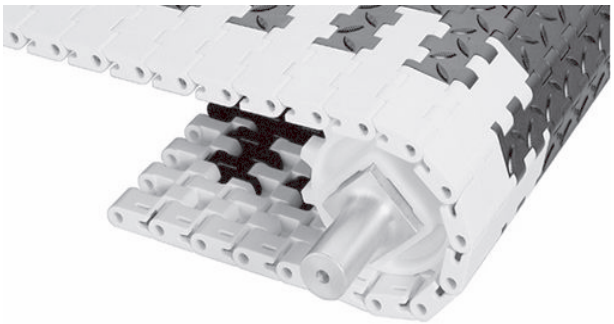
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2,500	36,500	-50 to 200	-46 to 93	5.83	28.47

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Non Skid

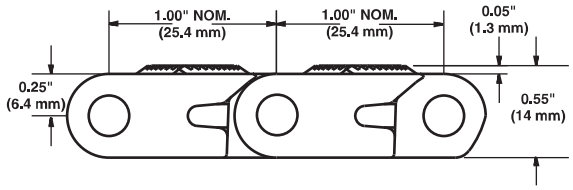
	in	mm
Pitch	1.00	25.4
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Robust design offers excellent belt and sprocket durability.
- Diamond tread pattern provides a non-skid walking surface to increase safety.
- Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Edges have a Flat Top surface, without treads.
- Slidelox are available in polypropylene or acetal.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- 1.00 (25.4 mm) pitch accommodates small drive sprockets for low-profile people carriers.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).



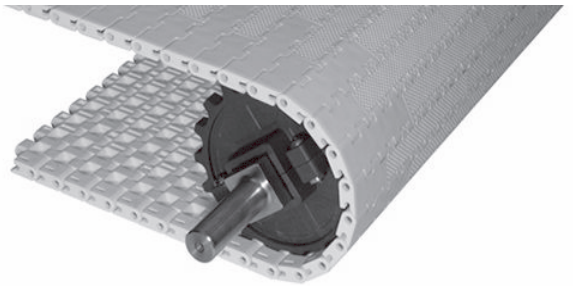


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	1,875	27,400	-50 to 200	-46 to 93	2.78	13.57
Polypropylene	Nylon	1,800	26,300	34 to 220	1 to 104	2.32	11.33

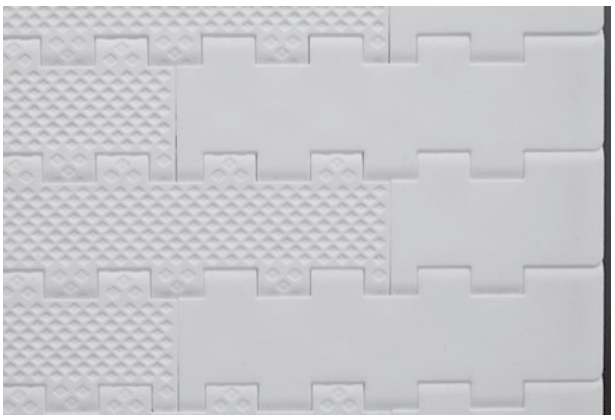
Embedded Diamond Top

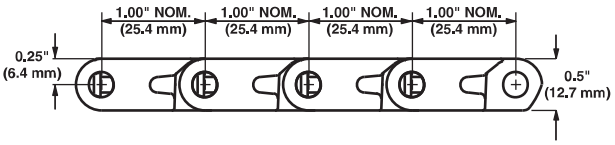
	in	mm
Pitch	1.00	25.4
Minimum Width	12.0	304.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Robust design offers excellent belt and sprocket durability.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.
- Minimum nominal alternating edge indents: 3 in (76 mm) and 4 in (102 mm).





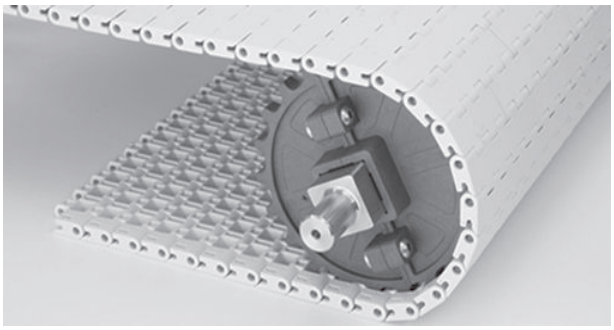
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	1,800	26,300	34 to 220	1 to 104	1.70	8.30

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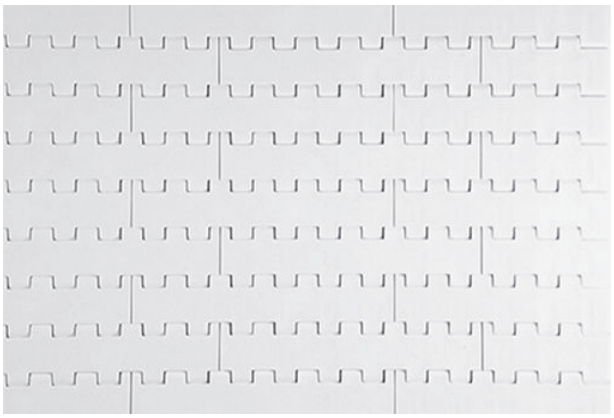
Flat Top Easy Release PLUS

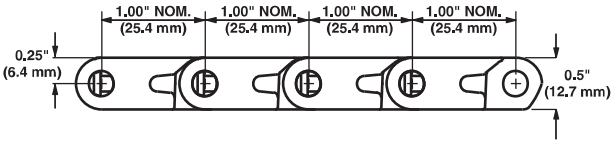
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Easy Release PLUS material resists rubber adhesion and has minimal dimensional expansion when exposed to oil and heat.
- Slidelox are polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.



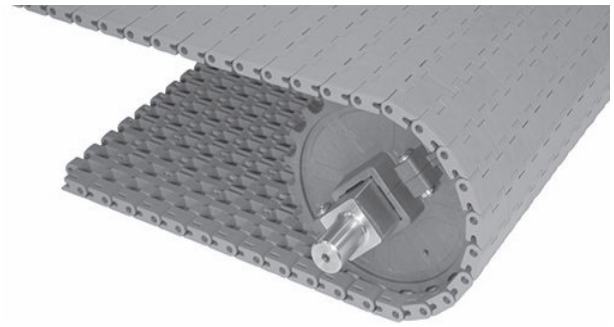


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Easy Release PLUS	Orange polypropylene (non-FDA)	1,600	23,400	34 to 220	1 to 104	2.00	9.78

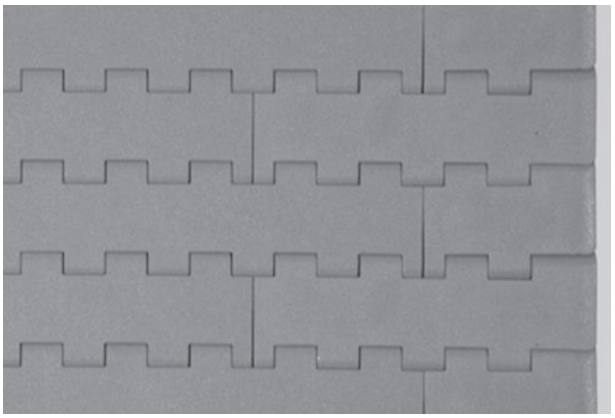
Flat Top Easy Release Traceable Polypropylene

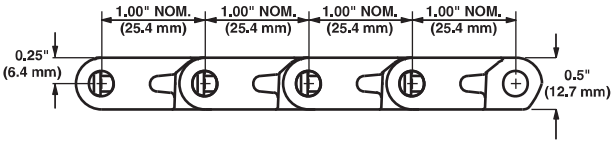
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Slidelox are detectable polypropylene.
- Sprockets are all plastic, with large, lug-style teeth for excellent durability and wear life.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough glass applications.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Easy Release Traceable PP	Orange polypropylene (non-FDA)	1,200	17,500	34 to 220	1 to 104	1.86	9.08

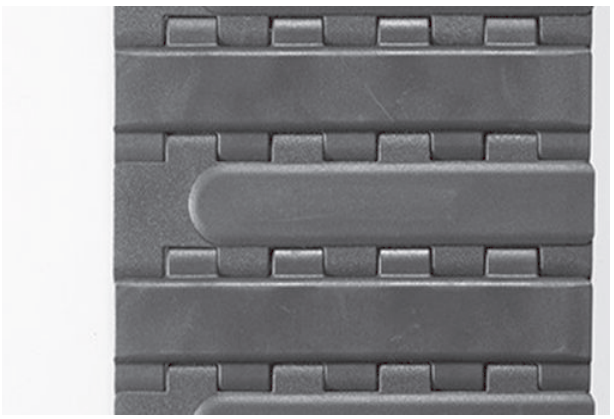
ProTrax™ with Tabs

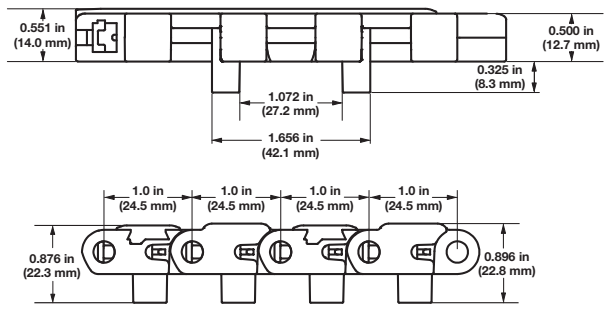
	in	mm
Pitch	1.00	25.4
Molded Widths	4.5	114.3
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Powerful magnets are embedded in the belts.
- Standard belt configuration consists of magnetic modules and S1400 Raised Flat Top modules alternating every other row to maximize wear resistance.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Tabs fit into a straight track style carryway with 1.75 in (44.5 mm) spacing.
- Slidelox provide rod and cap retention.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Sprockets are all plastic with stainless steel fasteners and large, lug-style teeth for excellent durability and wear life.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Ideal for incline, decline, vertical switch, pan indexing, and metering applications.
- Install belt strands to run in the same direction.
- Determine belt spacing based on maximum surface area contact with the bottom surface of the conveyed product.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal	Nylon	550	2,450	-50 to 200	-46 to 93	1.46	2.18
HHR nylon	Nylon	550	2,450	-50 to 310	-46 to 154	1.296	1.95

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway[c]
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
16	406	3	4	3
18	457	3	4	3
20	508	5	5	3
24	610	5	5	3
30	762	5	6	4
32	813	7	7	4
36	914	7	7	4
42	1,067	7	8	5
48	1,219	9	9	5
54	1,372	9	10	6
60	1,524	11	11	6
72	1,829	12	13	7
84	2,134	15	15	8
96	2,438	17	17	9
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing. [de]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

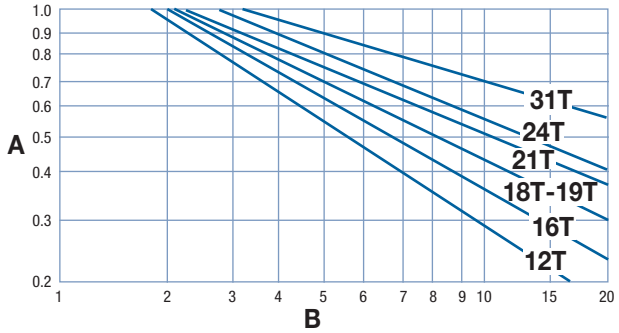
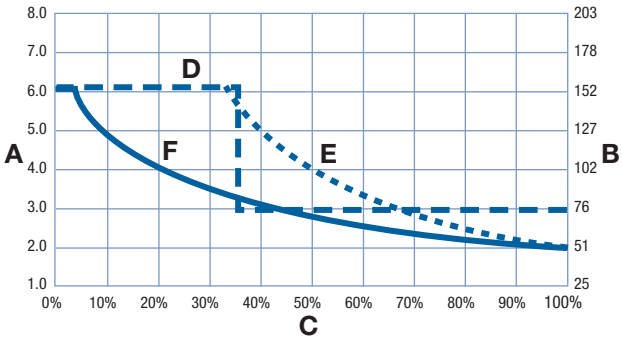
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

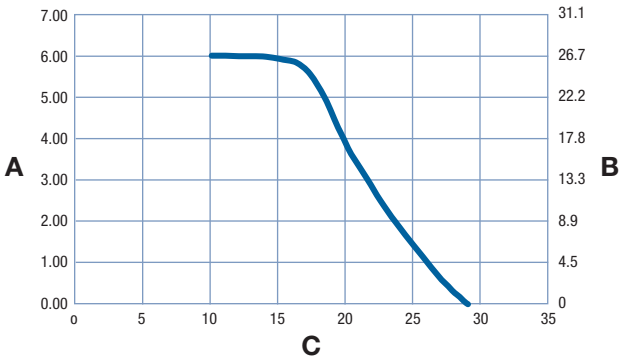
[c] For Friction Top applications, use caution and contact Intralox Customer Service.

[d] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

[e] For Flush Grid, see the locked sprocket location table in the Installation Instructions or contact Intralox Customer Service.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized
	
A strength factor **B** speed/length ratio (V/L) **T** number of teeth **V** belt speed, ft/min (m/min) **L** shaft centerline distance, ft (m) To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.	**A** sprocket spacing, in **B** sprocket spacing, mm **C** percentage of allowable belt strength utilized **D** long dashed line: Flush Grid **E** short dashed line: round bores **F** solid line: all other styles

MAGNET FORCE VS. METAL THICKNESS

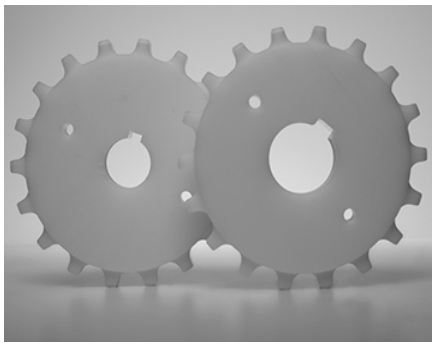


A magnet force (lbf)
B magnet force (N)
C metal thickness (steel gauge)

Figure 53: S1400 ProTrax with Tabs magnet force vs. metal thickness

NOTE: The magnet force shown is typical for an aluminized steel product with a flat surface and maximum surface area contact. Results can vary, based on material and surface texture.

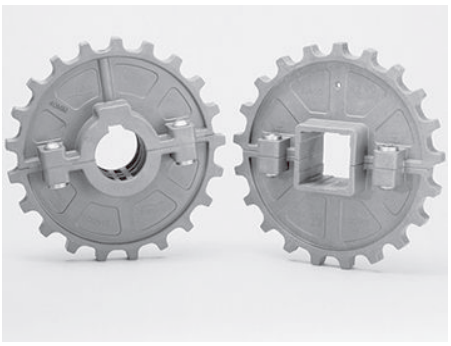
Machined Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
18 (1.52%)	5.7	145	5.8	148	0.75	19			30, 40		

Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	3.9	99	3.9	99	1.5	38		1.5		40	
15 (2.19%)	4.9	124	4.9	124	1.5	38		2.5		60	
18 (1.52%)	5.7	145	5.8	148	1.5	38	2	2.5	50	60	
24 (0.86%)	7.7	196	7.8	198	1.5	38		2.5		60	

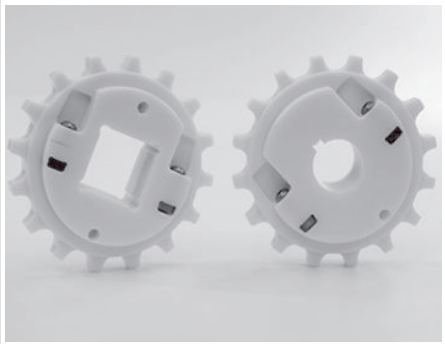
Glass-Filled Nylon Split Sprocket

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[b]	Square mm	
16 (1.92%)	5.1	130	5.2	132	2.0	51	1 to 2[c]	1.5	25 to 50[d]	40	
18 (1.52%)	5.7	145	5.8	148	2.0	51	1 to 2[c]	1.5, 2.5	25 to 50[d]	40, 60	
21 (1.12%)	6.7	170	6.8	172	2.0	51	1 to 2[b, c]	1.5, 2.5	25 to 50[d]	40, 60	

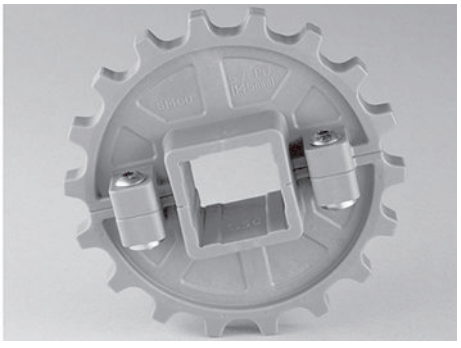
[a] Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
[b] Tight fit round bores are available in 1-1/4, 1-3/16, 1-1/2, and 1-7/16 in.
[c] Available in 1/16 in increments
[d] Available in 5 mm increments

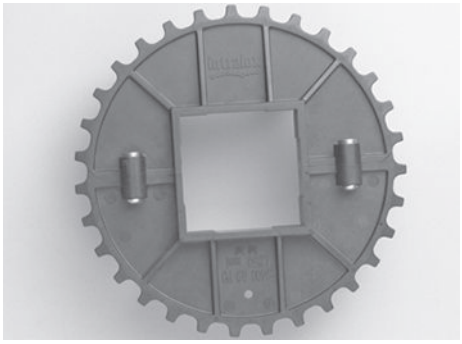
Maximum Belt Rating for Glass-Filled Nylon Round Bore Split Sprockets Based on Round Bore Size Range[a]														
Number of Teeth	Nom. Pitch Diameter		1 in to 1-3/16 in		1-1/4 in to 1-3/8 in		1-7/16 in to 1-3/4 in		1-13/16 in to 2 in		25 mm to 35 mm		40 mm to 50 mm	
	in	mm	lbf/ft	N/m	lbf/ft	N/m	lbf/ft	N/m	lbf/ft	N/m	lbf/ft	N/m	lbf/ft	N/m
16	5.1	130	1500	21,900	1740	25,400	2100	30,600	2160	31,500	1140	16,600	2160	31,500
18	5.7	145	1800	26,300	2040	29,800	2400	35,000	3240	47,300	1440	21,000	2460	35,900
21	6.7	170	1350	19,700	1650	24,100	2100	30,600	3000	43,800	1050	15,300	2400	35,000

[a]The belt rating based on round bore sprocket size is used to determine sprocket spacing as a function of belt strength utilized. It can also be used for all other calculations. However, if the rating for the belt material and belt style is lower then the belt rating based on the round bore sprocket size, then the lower rating must be used for all calculations other than sprocket spacing.

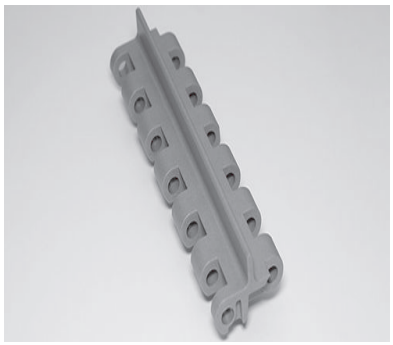
Nylon FDA Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
12 (3.41%)	3.9	99	3.9	99	0.75	19	1.25	1.5		40	
16 (1.92%)	5.1	130	5.2	132	1.5	38	1.25, 1.5	1.5	30	40	
18 (1.52%)	5.7	145	5.8	148	1.5	38	1.25	1.5	25, 30, 40	40	

[a]U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

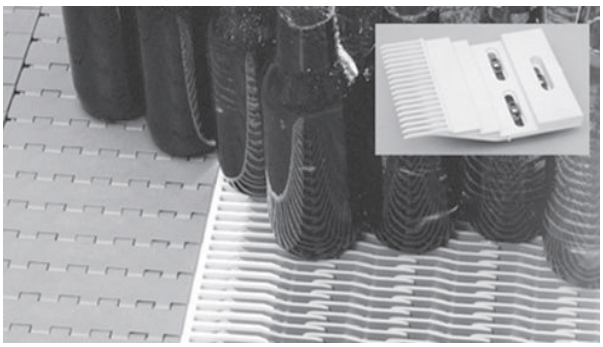
Enduralox Polypropylene Composite Split Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	5.1	130	5.2	132	2.0	51		1.5		40	
18 (1.52%)	5.7	145	5.8	148	2.0	51		1.5, 2.5		40, 60	
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5, 2.5		40	
31 (0.51%)	9.9	251	10.1	257	2.0	51		3.5			

Polyurethane Composite Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
31 (0.51%)	9.9	251	10.1	257	1.50, 1.67	38, 44		3.5, 2.5[a]			

[a] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

Flat Top Base Flights (Streamline)			
Available Flight Height		Available Materials	
in	mm		
0.43	11	Easy Release traceable polypropylene	

- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- The minimum indent is a function of belt width. Contact Intralox Customer Service for valid indent increments.

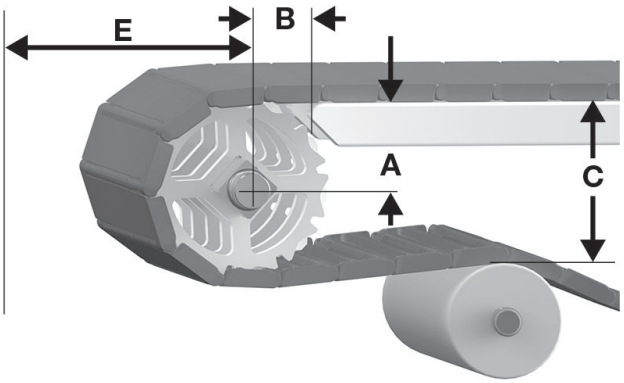
Self-Clearing Finger Transfer Plates[a]				
Available Width		No. of Fingers	Available Materials	
in	mm			
6	152	18	Glass-filled thermoplastic	

- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 54: A, B, C, and E drive dimensions

S1400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Embedded Diamond Top, Flat Top, Flush Grid										
3.9	99	12	1.62-1.68	41-43	1.80	46	3.86	98	2.24	57
4.9	124	15	2.10-2.15	53-55	2.06	52	4.81	122	2.72	69
5.1	130	16	2.26-2.32	57-59	2.11	54	5.13	130	2.88	73
5.7	145	18	2.59-2.63	66-67	2.22	56	5.76	146	3.19	81
6.7	170	21	3.07-3.10	78-79	2.44	62	6.71	170	3.75	95
7.7	196	24	3.55-3.58	90-91	2.64	67	7.66	195	4.14	105
9.9	251	31	4.67	119	3.07	78	9.88	251	5.25	133
Flat Friction Top, Oval Friction Top, Square Friction Top										
3.9	99	12	1.62-1.68	41-43	1.80	46	4.06	103	2.44	62
4.9	124	15	2.10-2.15	53-55	2.06	52	5.01	127	2.92	74
5.1	130	16	2.26-2.31	57-59	2.11	54	5.33	135	3.08	78
5.7	147	18	2.59-2.63	66-67	2.22	56	5.96	151	3.39	86
6.7	170	21	3.07-3.10	78-79	2.44	62	6.91	176	3.87	98
7.7	196	24	3.55-3.58	90-91	2.64	67	7.86	200	4.34	110
9.9	251	31	4.67	119	3.07	78	10.08	256	5.45	138
Roller Top										
3.9	99	12	1.62-1.68	41-43	1.80	46	4.66	118	3.04	77
4.9	124	15	2.10-2.15	53-55	2.06	52	5.61	142	3.52	89
5.1	130	16	2.26-2.31	57-59	2.11	54	5.93	151	3.68	93
5.7	145	18	2.59-2.63	66-67	2.22	56	6.56	167	3.99	101
6.7	170	21	3.07-3.10	78-79	2.44	62	7.51	191	4.47	113
7.7	196	24	3.55-3.58	90-91	2.64	67	8.46	215	4.94	125
9.9	251	31	4.67	119	3.07	78	10.68	271	6.05	154
Non Skid, ProTrax										
3.9	99	12	1.62-1.68	41-43	1.80	46	3.91	99	2.29	58
4.9	124	15	2.05-2.10	52-53	2.06	52	4.86	123	2.77	70
5.1	130	16	2.26-2.31	57-59	2.11	54	5.18	132	2.93	74
5.7	145	18	2.59-2.63	66-67	2.22	56	5.81	148	3.24	82
6.7	170	21	3.07-3.10	78-79	2.44	62	6.76	172	3.72	94
7.7	196	24	3.55-3.58	90-91	2.64	67	7.71	196	4.19	106
9.9	251	31	4.67	119	3.07	78	9.93	252	5.30	135

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1400 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
3.9	99	12	0.066	1.7
4.9	124	15	0.053	1.3
5.1	130	16	0.050	1.3
5.7	145	18	0.044	1.1
6.7	170	21	0.038	1.0
7.7	196	24	0.033	0.8
9.9	251	31	0.025	0.6

Flush Grid

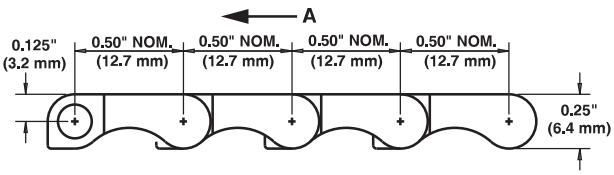
	in	mm
Pitch	0.50	12.7
Minimum Width	8	203
Width Increments	0.50	12.7
Opening Sizes (approximate)	0.87 × 0.30	22.1 × 7.6
	0.66 × 0.30	16.8 × 7.6
Open Area	48%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- The detectable material has surface resistivity per ASTM_D257 of 545 Ohms per square.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Detailed material information is provided at the beginning of Product Line.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for a 0.5 in (12.7 mm) diameter nosebar.





A preferred run direction

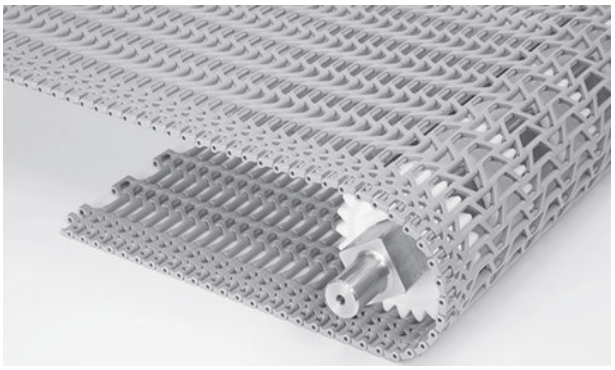
Belt Data

Belt Material	Default Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	125	1,820	34 to 220	1 to 104	0.44	2.12
Polypropylene	Acetal	150	2,190	34 to 200	1 to 93	0.51	2.40
HR nylon	Nylon	175	2,550	-50 to 240	-46 to 116	0.58	2.83
HHR nylon	HHR nylon	175	2,550	-50 to 310	-46 to 154	0.58	2.83
Acetal	Acetal	240	3,500	-50 to 200	-46 to 93	0.73	3.56
Detectable acetal	Acetal	200	2,920	-50 to 200	-46 to 93	0.69	3.35
Detectable polypropylene A22	Acetal	80	1,170	0 to 150	-18 to 66	0.57	2.78
X-ray detectable acetal[a]	Acetal	240	3,500	-50 to 200	-46 to 93	0.78	3.66

[a] Designed specifically for detection by X-ray machines.

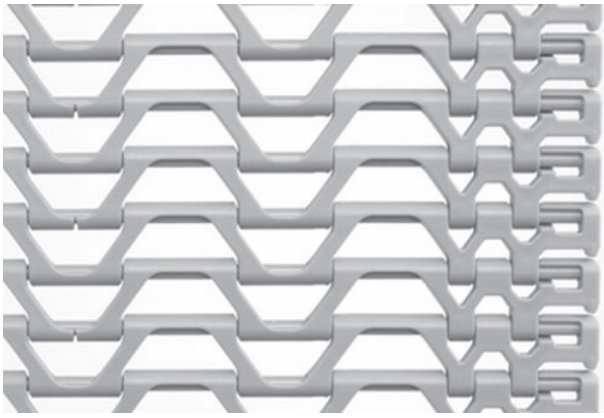
Flush Grid with Contained Edge

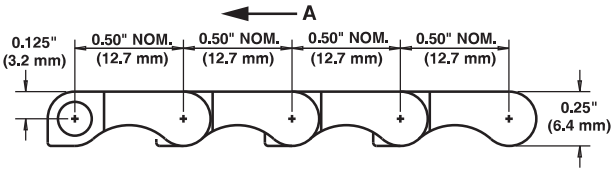
	in	mm
Pitch	0.50	12.7
Minimum Width	8	203
Width Increments	2.0	50.8
Minimum Opening Size (approximate)	0.87 × 0.30	22.1 × 7.6
Maximum Opening Size (approximate)	0.66 × 0.30	16.8 × 7.6
Open Area	48%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Recessed rod retention feature provides superior rod containment.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Available in 2 in (50.8 mm) increments.
- Designed for a 0.5 in (12.7 mm) diameter nosebar.
- Rod diameter: 0.140 in (3.6 mm).





A preferred run direction

Belt Data

Belt Material	Default Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
HR nylon	Nylon	175	2,550	-50 to 240	-46 to 116	0.58	2.83

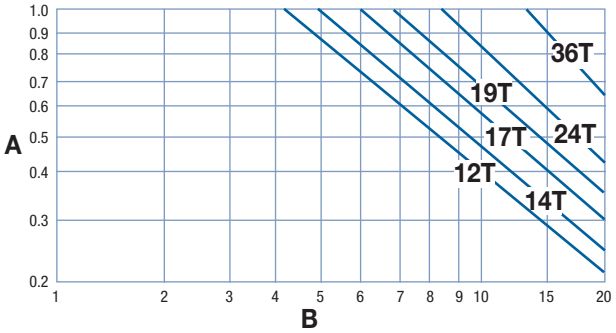
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
8	203	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	3	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
22	559	5	5	3
24	610	7	5	3
26	660	7	6	4
28	711	7	6	4
30	762	7	6	4
32	813	9	7	4
34	864	9	7	4
36	914	9	7	4
38	965	9	8	5
40	1,016	11	8	5
42	1,067	11	8	5
44	1,118	11	9	5
46	1,168	11	9	5
48	1,219	13	9	5
50	1,270	13	10	6
52	1,321	13	10	6
54	1,372	13	10	6
56	1,422	15	11	6
58	1,473	15	11	6
60	1,524	15	11	6
62	1,575	15	12	7
64	1,626	17	12	7
For other widths, use an odd number of sprockets at Maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 0.50 in (12.7 mm) increments beginning with 8 in (203 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

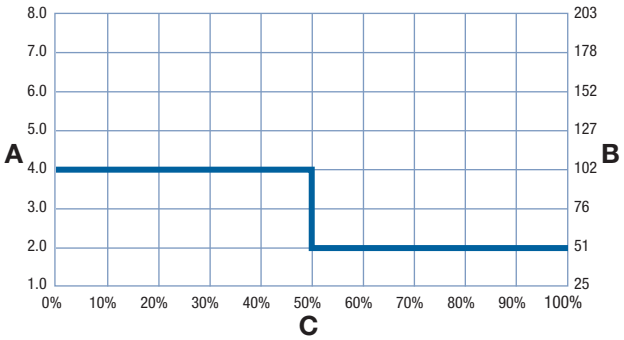
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

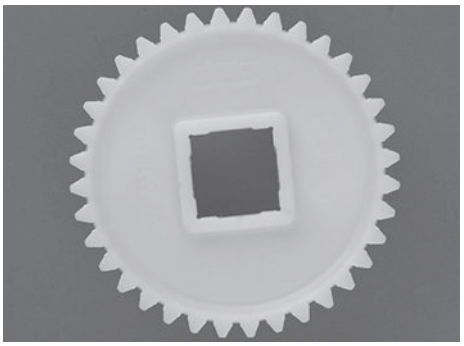
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

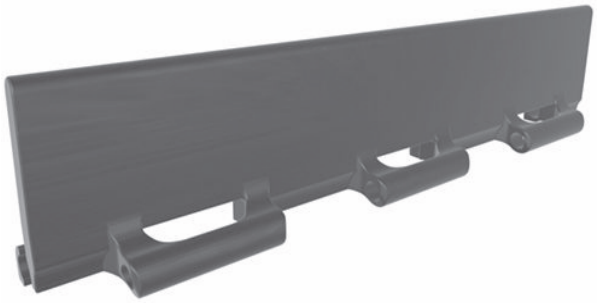
Molded Sprocket

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm [a]	Square mm
10 (4.89%)	1.6	41	1.8	46	0.65	17		5/8		
12 (3.41%)	1.9	48	2.1	53	0.65	17	1	1.0	25	
14 (2.51%)	2.3	58	2.4	61	0.75	19	3/4, 1, 1-3/16, 1-1/4	1.0	25	
17 (1.70%)	2.7	69	2.9	73	0.75	19	3/4, 1, 1-3/16, 1-1/4, 1-3/8		25	
19 (1.36%)	3.1	79	3.2	82	0.75	19	1, 1-3/8			
24 (0.86%)	3.8	97	4.0	101	0.75	19	1	1.5	25	40
36 (0.38%)	5.7	145	5.9	150	0.75	19	1	1.5, 2		40



[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

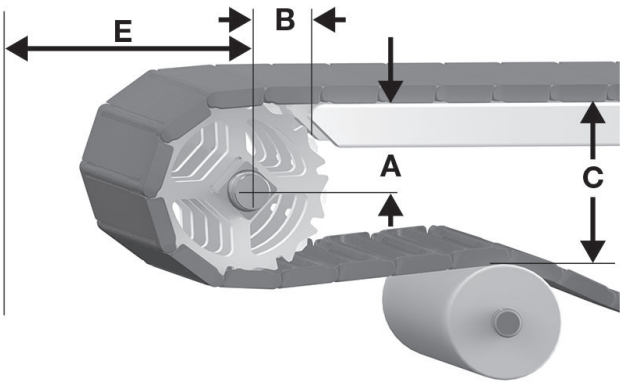
Nylon FDA Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
24 (0.86%)	3.8	97	4.0	101	1.5	38				40	
36 (0.38%)	5.7	145	5.9	150	1.5	38				40	

Flush Grid Base Flights (Streamline)			
Available Flight Height		Available Materials	
in	mm		
1	25	Acetal, HR nylon	

- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent is a function of belt width. Minimum indent range: 3 in (76 mm) to 3.75 in (95 mm).

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 55: A, B, C, and E drive dimensions

S1500 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid, Flush Grid with Contained Edge										
1.6	41	10	0.64-0.68	16-17	1.13	29	1.62	41	1.00	25
1.9	48	12	0.81-0.84	21	1.24	31	1.93	49	1.15	29
2.3	58	14	0.97-1.00	25	1.34	34	2.25	57	1.31	33
2.7	69	17	1.21-1.24	31	1.49	38	2.72	69	1.55	39
3.1	79	19	1.37-1.39	35	1.59	40	3.04	77	1.71	43
3.8	97	24	1.77-1.79	45	1.76	45	3.83	97	2.10	53
5.7	145	36	2.73-2.74	69-70	2.71	55	5.74	146	3.06	78

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

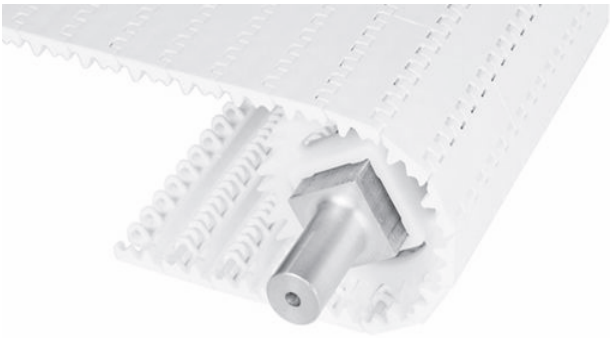
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1500 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
1.6	41	10	0.040	1.0
1.9	48	12	0.033	0.8
2.3	58	14	0.028	0.7
2.7	69	17	0.023	0.6
3.1	79	19	0.021	0.5
3.8	97	24	0.017	0.4
5.7	145	36	0.011	0.3

Open Hinge Flat Top

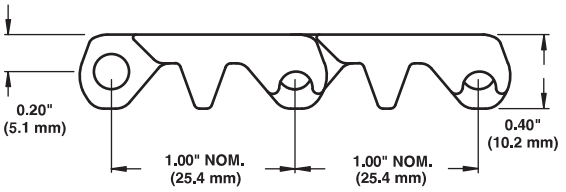
	in	mm
Pitch (nominal)	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Opening Size (approximate)	—	—
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radius corners.
- No pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- No-Cling flights are available.
- Standard flight height: 4 in (102 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.





Belt Data

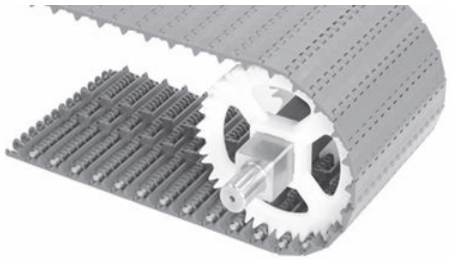
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.05	5.13
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	1.10	5.37
Acetal	Polypropylene	1,400	20,400	34 to 200	1 to 93	1.58	7.71
Acetal	Polyethylene[a]	1,000	14,600	-50 to 150	-46 to 66	1.58	7.71
Hi-Temp	Hi-Temp	1,000	14,600	70 to 400	21 to 204	1.54	7.52
X-ray detectable acetal[b]	X-ray detectable acetal	1,000	14,600	-50 to 150	-46 to 66	1.92	9.35
PK	PK	1,000	14,600	-40 to 176	-40 to 80	1.39	6.79

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

[b] Designed specifically for detection by X-ray machines.

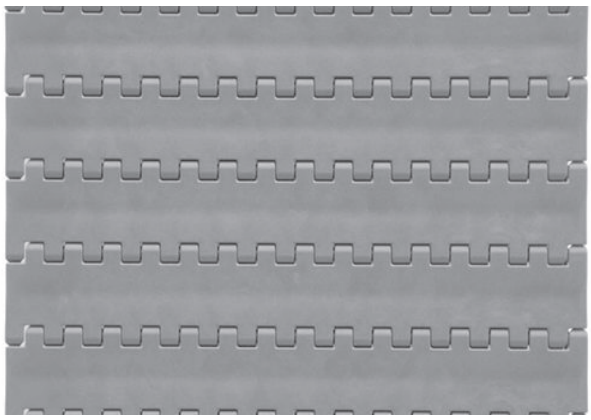
Mold to Width Open Hinge Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	7.5	190.5
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Molded with robust tracking tabs to support the belt in heavy side-loading applications.
- Uses recessed rods.
- Available in 10 ft (3 m) increments.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Do not use with sprockets smaller than a 3.9 in (99 mm) diameter (12 tooth) sprocket.



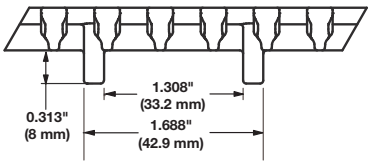


Figure 56: Front view

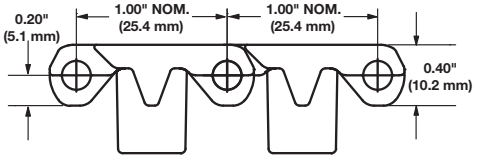


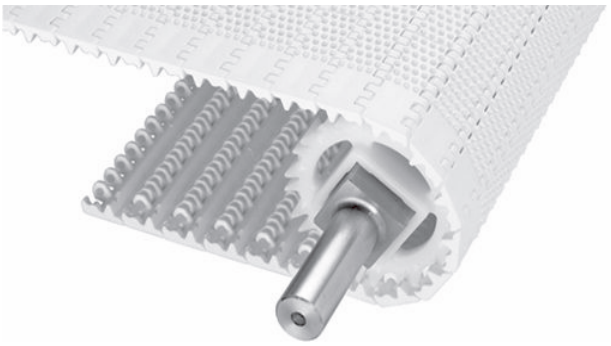
Figure 57: Side view

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal	Polyethylene	625	2,780	-50 to 150	-46 to 66	1.02	1.52

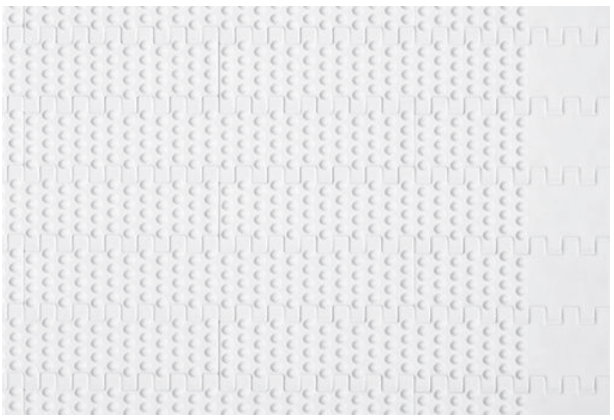
Nub Top

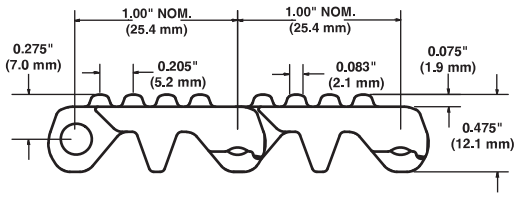
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Open Area	0%	
Product Contact Area	10%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- Standard flights available in polypropylene, polyethylene, and acetal. Flights are molded as part of the belt, and can be cut to any size.
- Recommended for products large enough to span the distance between the nubs [0.250 in (6.35 mm)].
- Standard nub indent: 1.3 in (33.0 mm).
- Flight height: 4 in (102 mm).





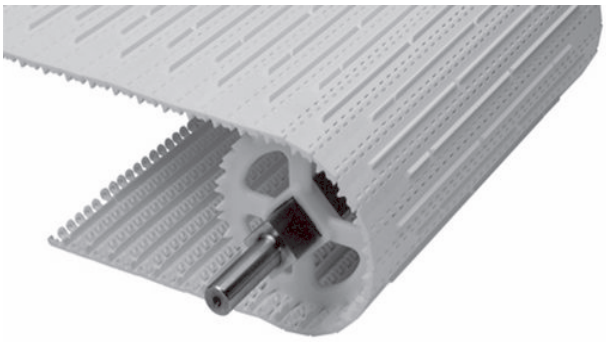
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.13	5.52
Polyethylene	Polyethylene	350	5,110	-50 to 150	-46 to 66	1.18	5.76
Acetal	Polypropylene	1,400	20,400	34 to 200	1 to 93	1.74	8.49
Acetal	Polyethylene[a]	1,000	14,600	-50 to 150	-46 to 66	1.74	8.49
X-ray detectable acetal	X-ray detectable acetal	1,400	20,400	-50 to 200	-46 to 93	2.01	9.81

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

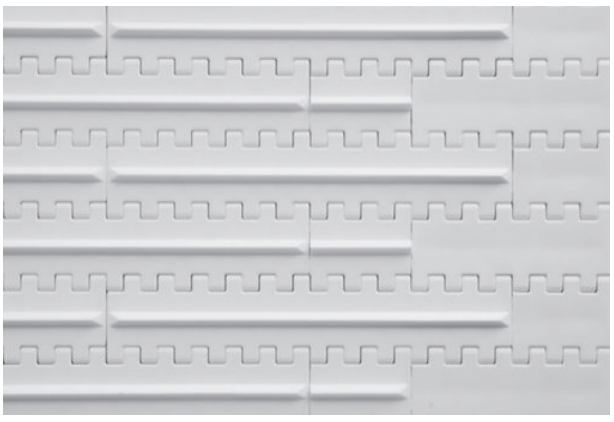
Mini Rib

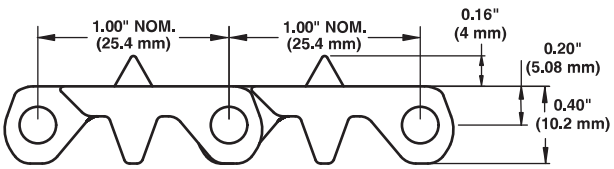
	in	mm
Pitch (nominal)	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Opening Size (approximate)	—	—
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Product Line.
- 0.16 in (4 mm) Mini Rib on surface accommodates gradual inclines and declines. Not recommended for product accumulation applications.
- No-Cling flights are available.
- Standard flight height: 4 in (102 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum nominal alternating edge indents: 1.5 in (38 mm) and 2 in (51 mm).



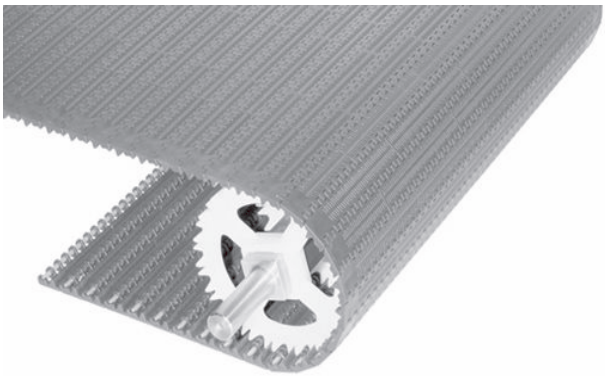


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	1.135	5.54
Acetal	Polypropylene	1,400	20,400	34 to 200	1 to 93	1.705	8.32

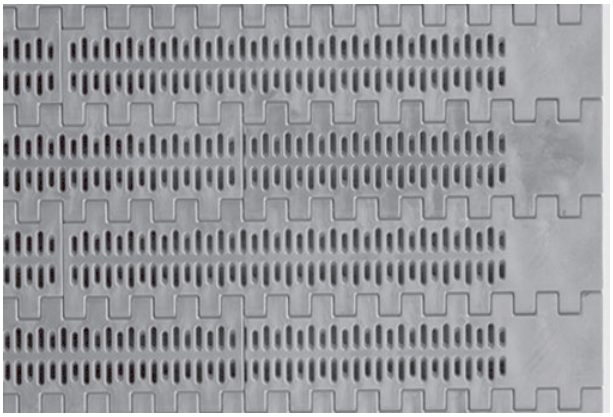
Mesh Top

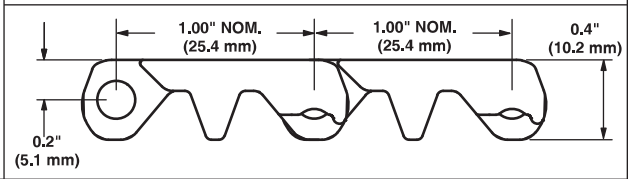
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Minimum Opening Size (approximate)	0.06 x 0.12	1.5 x 3.0
Maximum Opening Size (approximate)	0.06 x 0.20	1.5 x 5.1
Open Area	16%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Standard mesh top indent: 1.0 in (25.4 mm).
- No-Cling flights are available.
- Custom flight heights are available. Contact Intralox Customer Service for more information.





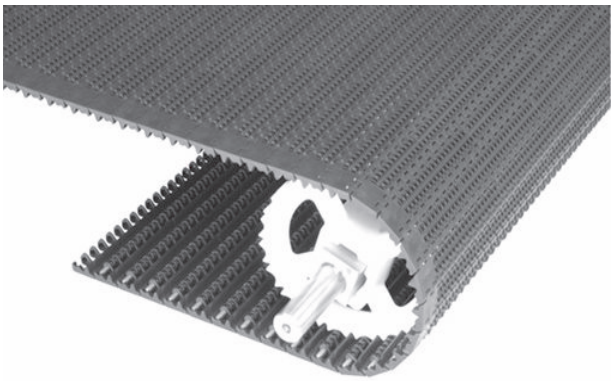
SERIES 1600

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,200	17,500	34 to 200	1 to 93	1.40	6.84
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.94	4.59
LMAR	HR nylon	1,100	1,6,000	0 to 240	-18 to 116	1.18	5.76

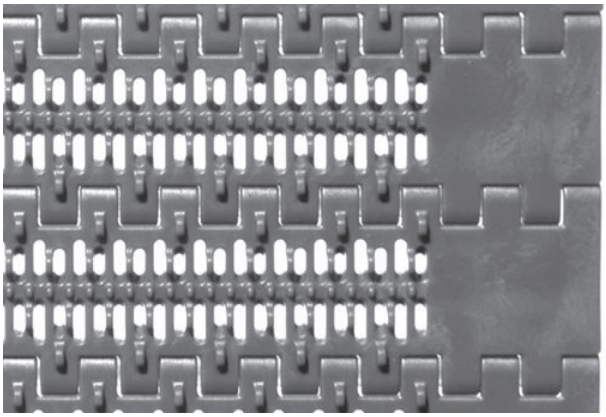
Mesh Nub Top

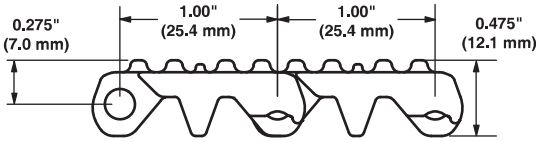
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Minimum Opening Size (approximate)	0.06 x 0.12	1.5 x 3.0
Maximum Opening Size (approximate)	0.06 x 0.20	1.5 x 5.1
Open Area	16%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Standard Mesh Nub Top indent: 1.0 in (25.4 mm).
- No Cling flights are available.
- Standard flight height: 4 in (102 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



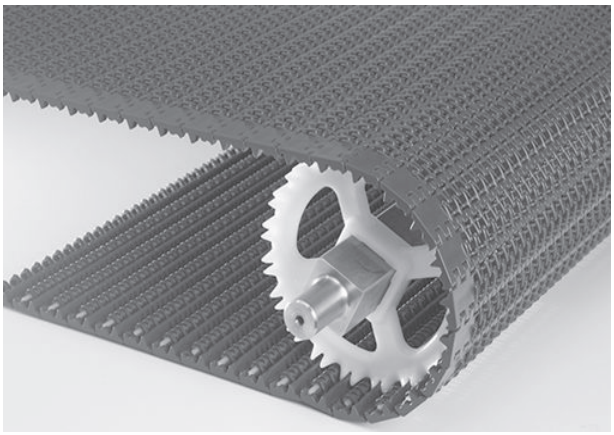


Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1,200	17,500	34 to 200	1 to 93	1.45	7.08
Polypropylene	Polypropylene	700	10,200	34 to 220	1 to 104	0.98	4.81

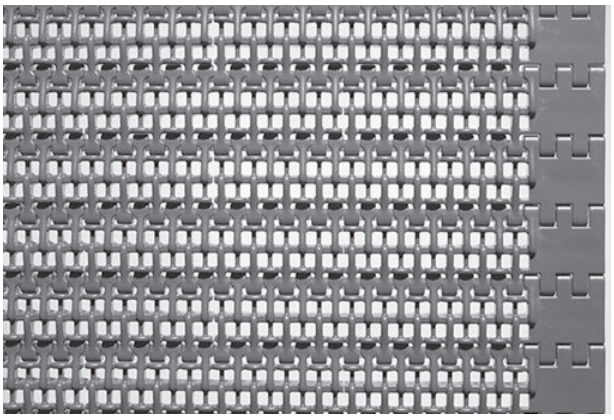
Raised Open Grid

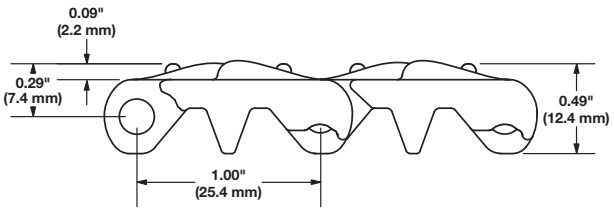
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.20 x 0.16	5.1 x 4.1
Open Area	28%	
Minimum Open Area	n/a	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Open area is designed to limit water film formation and maximize water drainage.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Like S800 and S1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Standard indent: 1 in (25.4 mm).





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	800	11,700	34 to 200	1 to 93	1.32	6.44
Polypropylene	Polypropylene	400	5,840	34 to 220	1 to 104	0.89	4.35
Polyethylene	Polyethylene	200	2,920	-50 to 150	-46 to 66	0.92	4.49

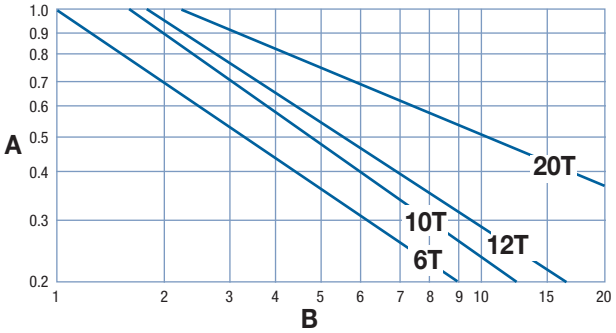
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	3	3	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1,067	11	8	5
48	1,219	13	9	5
54	1,372	15	10	6
60	1,524	15	11	6
72	1,829	19	13	7
84	2,134	21	15	8
96	2,438	25	17	9
120	3,048	31	21	11
144	3,658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing.	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 0.50 in (12.7 mm) increments beginning with 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

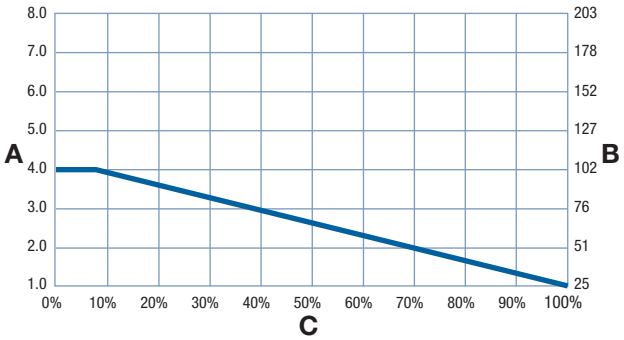
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

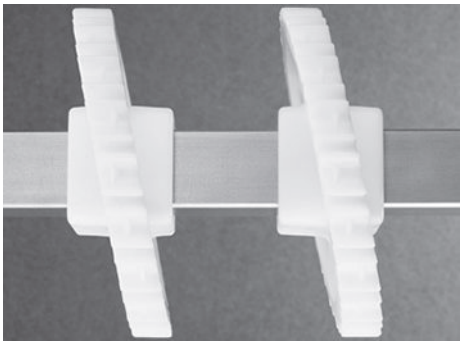
EZ Clean™ Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm
6 (13.40%)	2.0	51	1.8	46	1.0	25	1.0		25	
10 (4.89%)	3.2	81	3.2	81	1.0	25	1.0	1.5	25	40
12 (3.41%)	3.9	99	3.8	97	1.0	25		1.5		40
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40

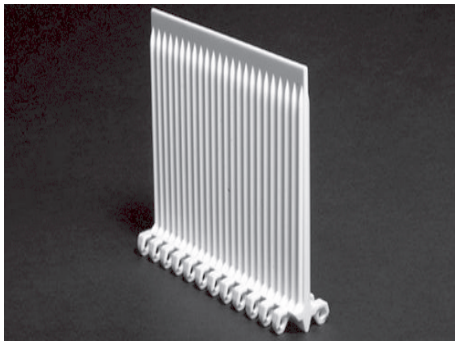


[a] When using polyurethane sprockets, the belt strength for belts rated over 500 lbf/ft (7,300 N/m) is de-rated to 500 lb/ft (7,300 N/m) All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

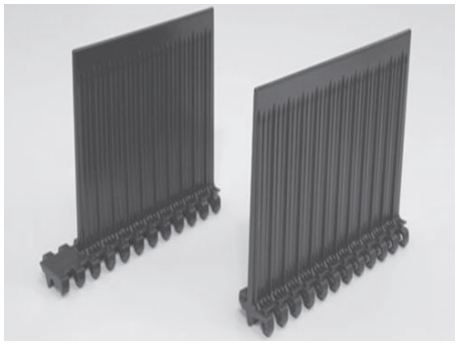
[b] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

Angled EZ Clean™ Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	3.9	99	3.8	97	2.0	50.8		1.5		40	
16 (1.92%)	5.2	132	5.1	130	2.0	50.8		1.5		40	
20 (1.23%)	6.4	163	6.4	163	2.0	50.8		1.5		40	

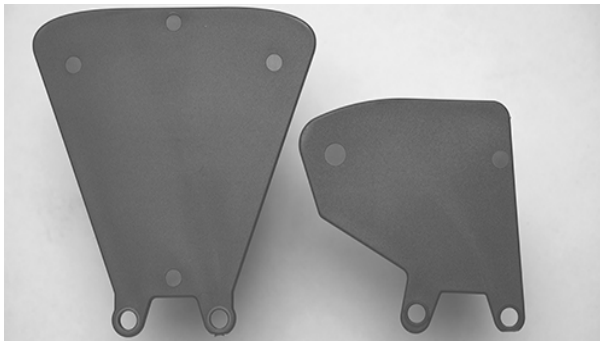
UHMW Polyethylene Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	5.3	135	5.1	130	1.0	25				40	

Open Hinge Flat Top Base Flight (No-Cling)			
Available Flight Height		Available Materials	
in	mm		
4.0	102	Acetal, polyethylene, polypropylene, X-ray detectable acetal	

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Minimum indent: 1.0 in (25.4 mm)
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).

Mesh Nub Top Base Flights (No-Cling)			
Available Flight Height		Available Materials	
in	mm		
4.0	102	Acetal, polyethylene	

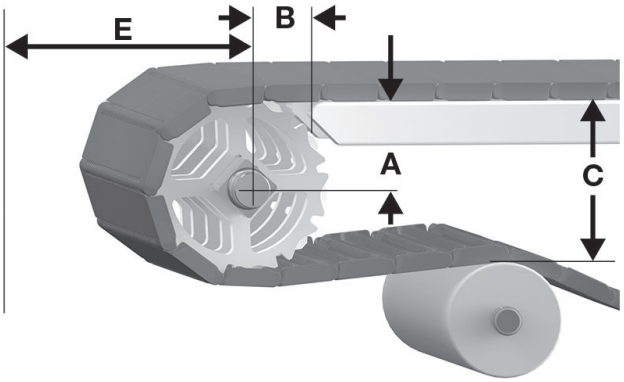
- The No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent: 1.0 in (25.4 mm).

Sideguards			
Available Sizes		Available Materials	
in	mm		
2	51	Polypropylene	
3	76		

- Fastens to belt with hinge rods. No other fasteners required.
- Can be used in multiple rows to separate product.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 10-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 12-, 16-, and 20-tooth sprockets.
- Standard gap between sideguards and flight edge: 0.3 in (7.6 mm).
- Minimum indent: 1.0 in (25 mm)

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 58: A, B, C, and E drive dimensions

S1600 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Mesh Top, Open Hinge Flat Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.00	51	1.26	32
3.2	81	10	1.34-1.42	34-36	1.56	40	3.24	82	1.88	48
3.9	99	12	1.67-1.73	42-44	1.70	43	3.86	98	2.19	56
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.39	162	3.46	88
Mesh Nub Top, Nub Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.08	53	1.34	34
3.2	81	10	1.34-1.42	34-36	1.56	40	3.31	84	1.96	50
3.9	99	12	1.67-1.73	42-44	1.70	43	3.94	100	2.27	58
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.47	164	3.53	90
Mini Rib										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.16	55	1.42	36
3.2	81	10	1.34-1.42	34-36	1.56	40	3.40	86	2.04	52
3.9	99	12	1.67-1.73	42-44	1.70	43	4.02	102	2.35	60
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.55	166	3.62	92

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

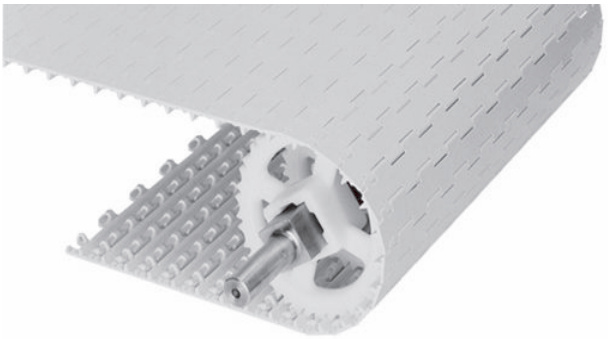
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1600 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
2.0	51	6	0.134	3.4
3.2	81	10	0.079	2.0
3.9	99	12	0.066	1.7
6.4	163	20	0.039	1.0

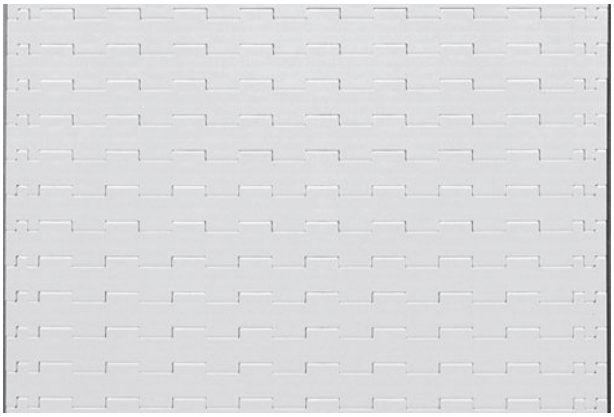
SeamFree™ Minimum Hinge Flat Top

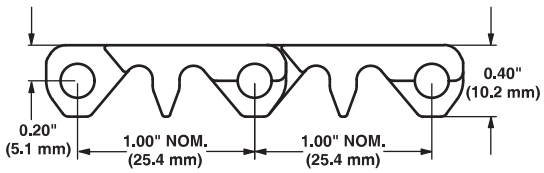
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Belts over 18 in (457 mm) are built with multiple modules per row, but seams are minimized.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt combines with a patent-pending flume feature to channel water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for use with S1600 Angled EZ Clean sprockets. Also compatible with standard S1600 EZ Clean sprockets.





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	350	5,110	-50 to 200	-46 to 93	1.47	7.18
Acetal	Polypropylene	325	4,740	34 to 200	1 to 93	1.40	6.84
Acetal	Polyethylene	225	3,280	-50 to 150	-46 to 66	1.40	6.83

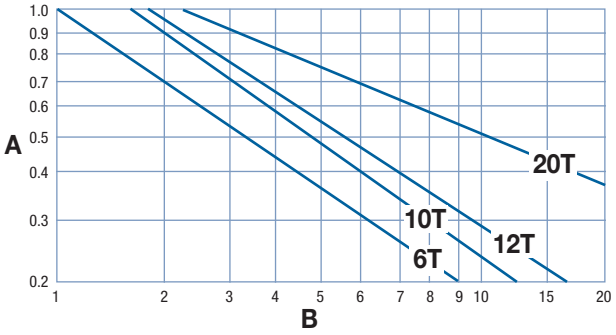
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
4	102	2	2	2
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	3	3	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1,067	11	8	5
48	1,219	13	9	5
54	1,372	15	10	6
60	1,524	15	11	6
72	1,829	19	13	7
84	2,134	21	15	8
96	2,438	25	17	9
120	3,048	31	21	11
144	3,658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 1.0 in (25.4 mm) increments beginning with 4 in (101.6 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

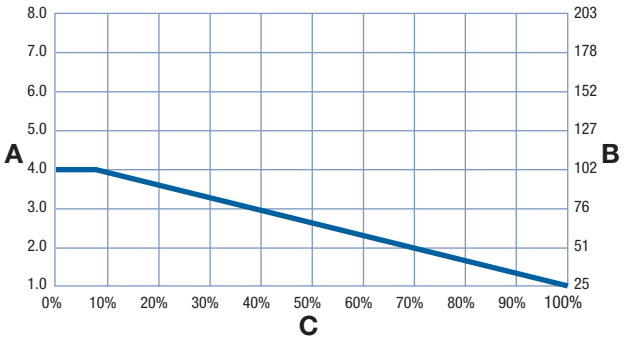
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

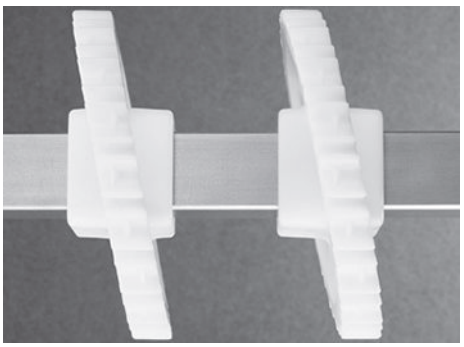
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Angled EZ Clean™ Sprockets

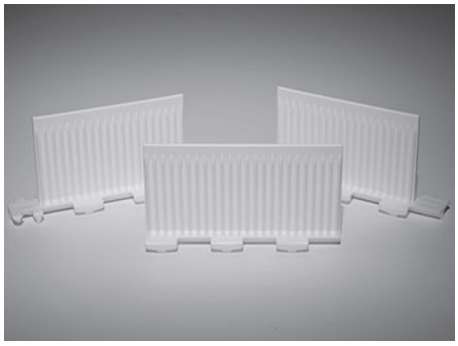
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	3.9	99	3.8	97	2.0	50.8		1.5		40
16 (1.92%)	5.2	132	5.1	130	2.0	50.8		1.5		40
20 (1.23%)	6.4	163	6.4	163	2.0	50.8		1.5		40



Minimum Hinge Flat Top Base Flights (Double No-Cling)

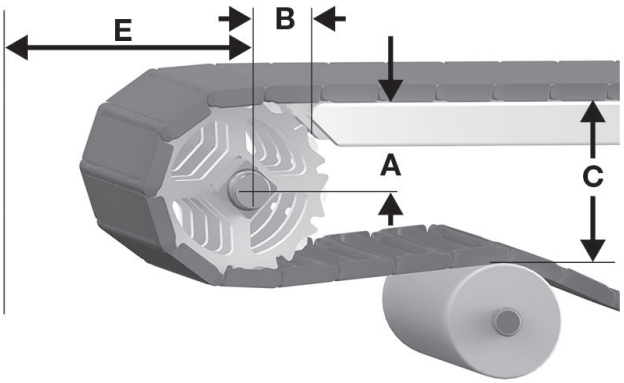
Available Flight Height		Available Materials
in	mm	
3.0	76.2	Acetal

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Flights can be cut down to a minimum height of 0.5 in (12.7 mm).
- Flights of even-inch widths come standard with 1 in (25.4 mm) indents. Flights of odd-inch widths are available for retrofits and require machined indents, which contain marks and evidence of modification.



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 59: A, B, C, and E drive dimensions

S1650 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
SeamFree Minimum Hinge Flat Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.00	51	1.26	32
3.2	81	10	1.34-1.42	34-36	1.56	40	3.24	82	1.88	48
3.9	99	12	1.67-1.73	42-44	1.70	43	3.86	98	2.19	56
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.40	163	3.46	88

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

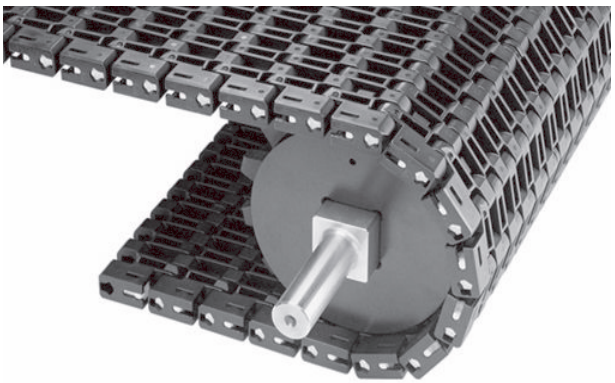
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1650 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
2.0	51	6	0.134	3.4
3.2	81	10	0.079	2.0
3.9	99	12	0.066	1.7
6.4	163	20	0.039	1.0

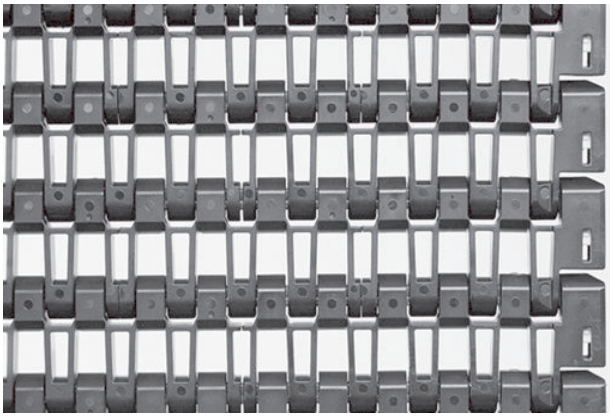
Flush Grid

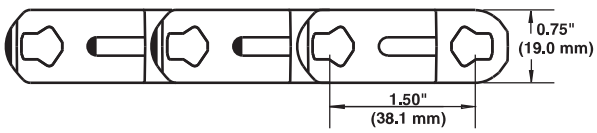
	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.62 × 0.50	15.7 × 12.7
	0.70 × 0.26	17.8 × 6.6
Open Area	37%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Slidelox are highly visible, orange acetal.
- Multi-rod hinge design significantly reduces cam shaft requirements. Every row contains two rectangular rods.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ultra-abrasion-resistant polyurethane sprockets with large lug teeth.
- Abrasion resistant system lasts 2.5 to 3 times longer than conventional modular plastic belts.
- Provides excellent belt and sprocket durability, especially in tough material-handling applications.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.





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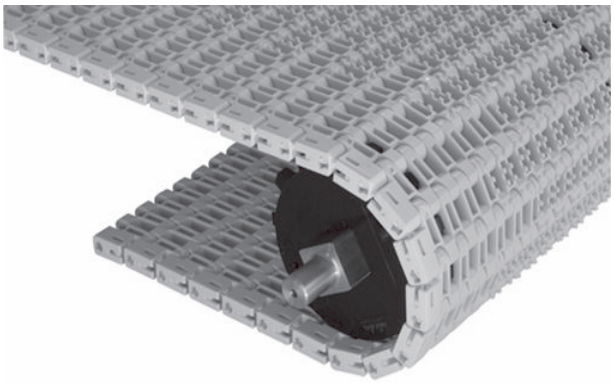
Belt Data

Belt Material	Default Rod Material 0.25 × 0.17 in (6.4 × 4.3 mm)	Belt Strength		Temperature Range (continuous)[a]		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
AR nylon	Nylon	1,800	26,300	-50 to 240	-46 to 116	2.21	10.78
Detectable nylon	Nylon	1,500	21,900	-50 to 180	-46 to 82	2.28	11.13
Low Wear Plus	Low Wear Plus	500	7,300	0 to 120	-18 to 49	2.56	12.50

[a] Sprocket temperatures must be limited to -40°F to 160°F (-40°C to 70°C). Belt used in temperature range of 212°F to 240°F (100°C to 116°C) are not FDA-compliant.

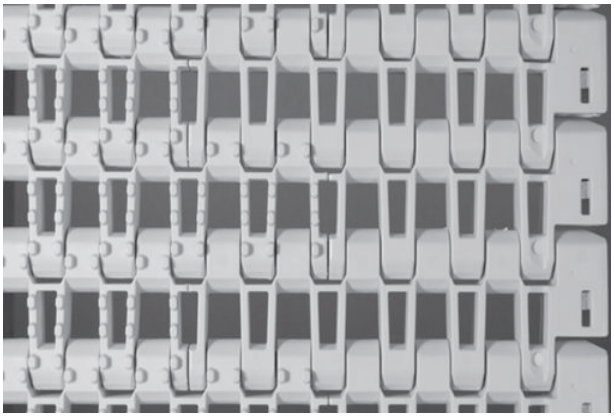
Flush Grid Nub Top

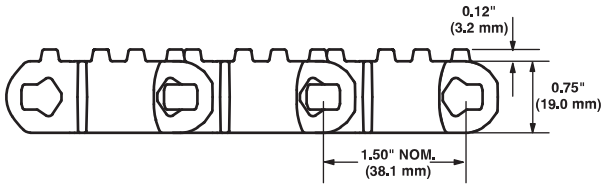
	in	mm
Pitch	1.50	38.1
Minimum Width	16	406.4
Width Increments	1.00	25.4
Opening Size (approximate)	0.70 × 0.26	18 × 7
Open Area	37%	
Product Contact Area	8%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Slidelox are highly visible, orange acetal.
- Multi-rod hinge design significantly reduces cam shaft requirements. Every row contains two rectangular rods.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ultra-abrasion-resistant, polyurethane split sprockets with large lug teeth.
- Abrasion resistant system lasts 2.5 to 3 times longer than conventional modular plastic belts.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- Minimum nominal alternating edge indents: 4 in (102 mm) and 6 in (152 mm).





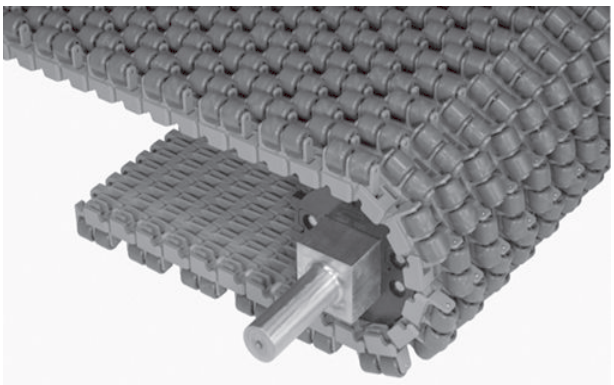
Belt Data

Belt Material	Default Rod Material 0.25 × 0.17 in (6.4 × 4.3 mm)	Belt Strength		Temperature Range (continuous)[a]		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Nylon (FDA)	Nylon	1,800	26,300	-50 to 240	-46 to 116	2.21	10.78
Easy Release Traceable PP	Nylon	1,500	21,900	34 to 220	1 to 104	1.84	8.98
Low Wear Plus	Low Wear Plus	500	7,300	0 to 120	-18 to 49	2.58	12.60

[a] Sprocket temperatures must be limited to -40°F to 160°F (-40°C to 70°C). Belt used in temperature range of -212°F to 240°F (100°C to 116°C) are not FDA-compliant.

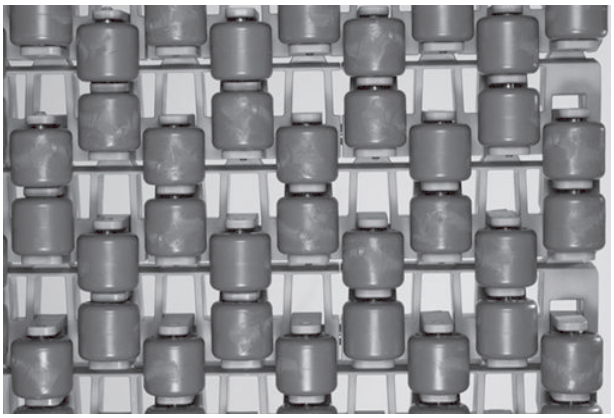
Transverse Roller Top™ (TRT™)

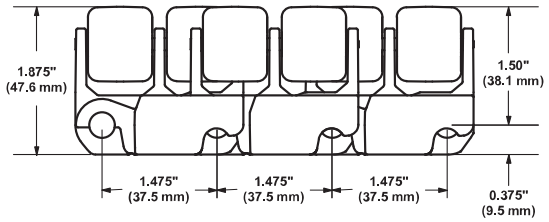
	in	mm
Pitch	1.475	37.5
Minimum Width	12	304.8
Width Increments (See *Product Notes*.)	2.00	50.8
Minimum Opening Size (approximate)	0.62 x 0.50	16 x 13
Maximum Opening Size (approximate)	0.70 x 0.26	18 x 7
Open Area	26%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Roller axles are stainless steel for durability and long-lasting performance.
- Must be assembled in two-row increments.
- Available in width increments of 2 in (50.8 mm) except 14 in (356 mm) belts are not available.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ultra-abrasion-resistant, polyurethane split sprockets with large lug teeth.
- Split sprockets are available.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Roller diameter: 0.95 in (24.1 mm).
- Roller length: 0.825 in (21 mm).
- Roller spacing: 1.0 in (25.4 mm).
- Minimum return roller diameter: 6.0 in (152.4 mm).





Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,200	32,100	34 to 200	1 to 93	4.70	22.96

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Sprocket and Support Quantity Reference Flush Grid and Flush Grid Nub Top				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	Place wearstrips in a chevron pattern or use a flat continuous carryway. Do not use straight, parallel wearstrips.	Place wearstrips in a chevron pattern or use a flat continuous returnway. Do not use straight, parallel wearstrips.
6	152	2		
7	178	3		
8	203	3		
9	229	3		
10	254	3		
12	305	3		
14	356	3		
15	381	3		
16	406	5		
18	457	5		
20	508	5		
24	610	5		
30	762	7		
32	813	9		
36	914	11		
42	1,067	13		
48	1,219	15		
54	1,372	17		
60	1,524	19		
72	1,829	23		
84	2,134	27		
96	2,438	31		
120	3,048	39		
144	3,658	47		
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 1.00 in (25.4 mm) increments, beginning at 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Sprocket and Support Quantity Reference for Transverse Roller Top				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	3	2	2
8	203	3	2	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3

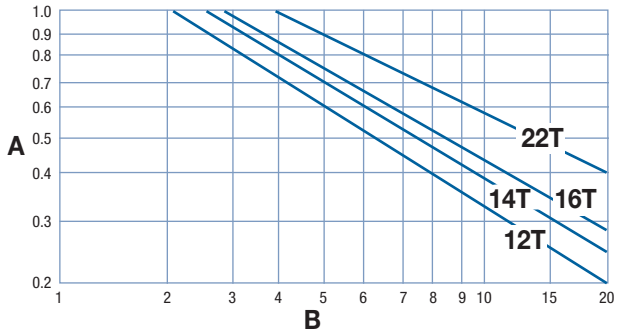
Sprocket and Support Quantity Reference for Transverse Roller Top				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
24	610	5	4	3
30	762	7	5	4
32	813	7	5	4
36	914	9	5	4
42	1,067	9	6	5
48	1,219	11	7	5
54	1,372	11	7	6
60	1,524	13	8	6
72	1,829	15	9	7
84	2,134	17	11	8
96	2,438	21	12	9
120	3,048	25	15	11
144	3,658	29	17	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 1.00 in (25.4 mm) increments beginning with 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

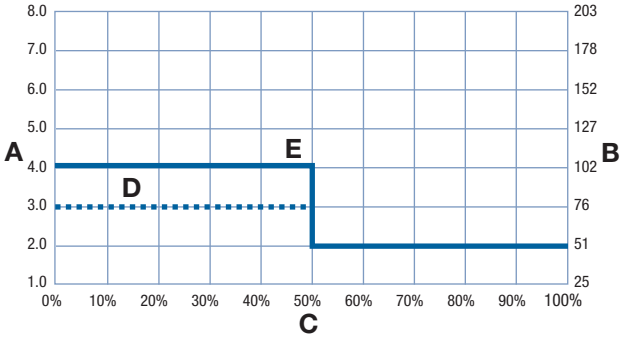
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D dashed line: Transverse Roller Top
E solid line: Flush Grid and Flush Grid Nub Top

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Ultra Abrasion Resistant Polyurethane Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	5.8	147	5.85	149	1.5	38		1.5		40
14 (2.51%)	6.7	170	6.80	173	1.5	38		1.5		40
16 (1.92%)	7.7	196	7.74	197	1.5	38		1.5, 2.5		40, 60
22 (1.02%)	10.5	267	10.59	269	1.5	38		2.5		



Ultra Abrasion Resistant Polyurethane Split Sprockets

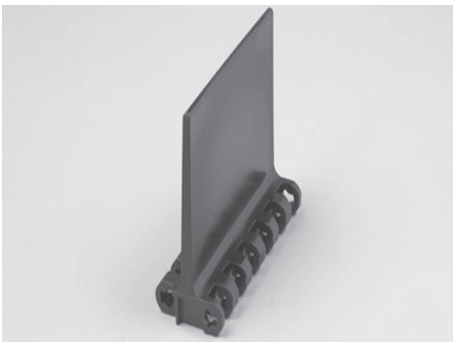
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
14 (2.51%)	6.7	170	6.80	173	1.5	38		1.5, 2.5		40, 60
16 (1.92%)	7.7	196	7.74	197	1.5	38		1.5, 2.5		40, 60
22 (1.02%)	10.5	267	10.59	269	1.5	38		2.5, 3.5		60



Streamline Flights

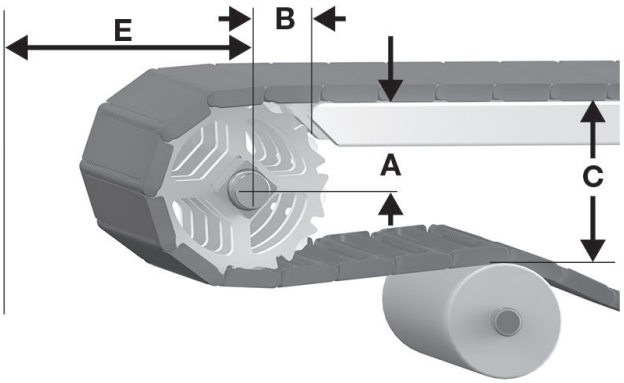
Available Flight Height		Available Materials
in	mm	
4.0	102	Nylon (AR), detectable nylon
6.0	152	

- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent: 2.0 in (51 mm).



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 60: A, B, C, and E drive dimensions

S1700 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid										
5.8	147	12	2.36-2.46	60-62	2.42	61	5.67	144	3.27	83
6.7	170	14	2.85-2.93	72-74	2.63	67	6.61	168	3.74	95
7.7	196	16	3.33-3.40	85-86	2.81	71	7.56	192	4.22	107
10.5	267	22	4.78-4.83	121-123	3.30	84	10.41	264	5.64	143
Flush Grid Nub Top										
5.8	147	12	2.36-2.46	60-62	2.42	61	5.79	147	3.39	86
6.7	170	14	2.85-2.93	72-74	2.63	67	6.73	171	3.86	98
7.7	196	16	3.33-3.40	85-86	2.81	71	7.68	195	4.34	110
10.5	267	22	4.78-4.83	121-123	3.30	84	10.53	267	5.76	146
Transverse Roller Top										
5.8	147	12	2.42-2.52	61-64	2.36	60	6.92	176	4.46	113
6.7	170	14	2.91-3.00	74-76	2.56	65	7.87	200	4.93	125
7.7	196	16	3.40-3.47	86-88	2.73	69	8.81	224	5.41	137
10.5	267	22	4.84-4.90	123-124	3.20	81	11.67	296	6.83	173

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

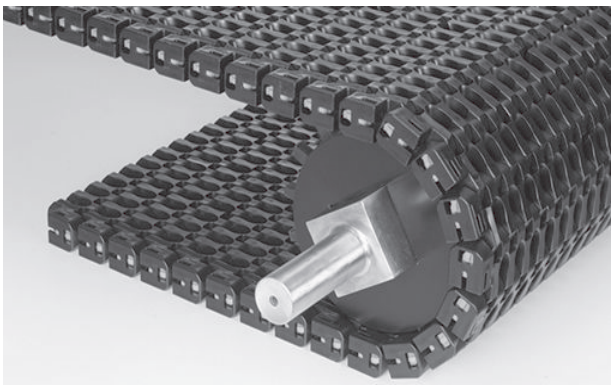
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1700 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.8	147	12	0.099	2.5
6.7	170	14	0.085	2.2
7.7	196	16	0.074	1.9
10.5	267	22	0.054	1.4

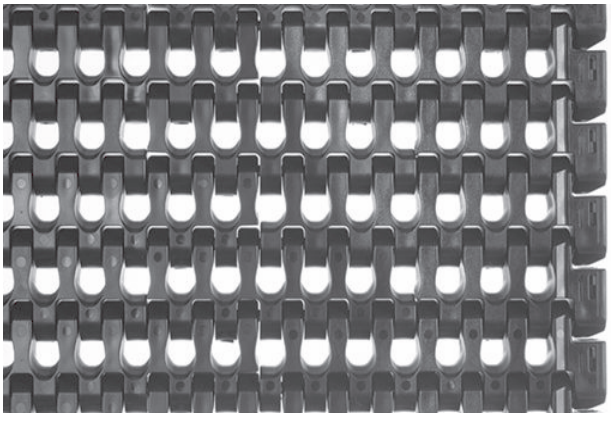
Flush Grid

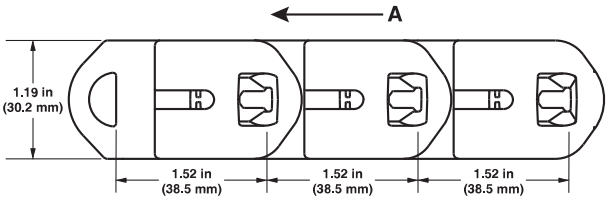
	in	mm
Pitch	1.52	38.6
Minimum Width	12	304.8
Maximum Width	120	3048
Width Increments	1.00	25.4
Opening Size (approximate)	0.66 x 0.53	16.7 x 13.5
Open Area	21%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Highly visible Slidelox rod retention feature.
- Large belt openings allow high-volume water flow and drainage.
- Semi-circle rod design significantly reduces rod wear and pitch elongation, and delivers predictable performance for maintenance planning in tough applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Ultra-abrasion-resistant polyurethane sprockets. Sprockets have large lug teeth that provide reliable engagement, extend sprocket life, and clear debris from the drive pockets.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Conveyor requirements: Intralox recommends steel carryways in either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- For specific conveyor design guidelines, contact Intralox Customer Service.





A preferred run direction

Belt Data

Belt Material	Default Rod Material 0.5 in (12.5 mm) Half Round	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Low Wear Plus	Stainless steel	1,200	17,500	0 to 120	-18 to 49	7.10	34.66
LMAR	Stainless steel	1,800	26,300	0 to 212	-18 to 100	6.73	32.86

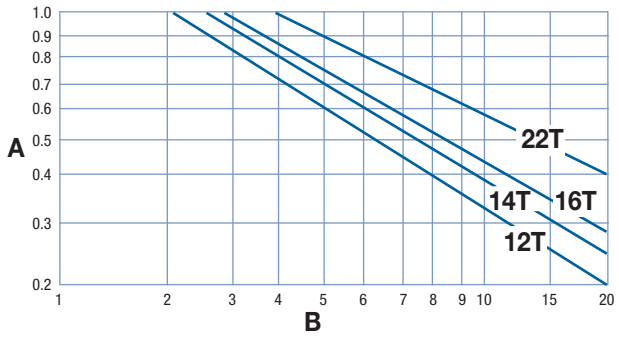
Sprocket and Support Quantity Reference Flush Grid				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
12-14	305-356	5	For specific carryway guidelines, contact Intralox Customer Service, or see the S1750 Design Guidelines.	For specific returnway guidelines, contact Intralox Customer Service, or see the S1750 Design Guidelines.
15-18	381-457	7		
20	508	9		
24	610	11		
30	762	13		
32	813	15		
36	914	17		
42	1,067	19		
48	1,219	23		
54	1,372	25		
60	1,524	29		
72	1,829	35		
84	2,134	41		
96	2,438	47		
108	2,743	53		
120	3,038	59		
For other widths, use an odd number of sprockets at maximum 2 in (51 mm) centerline spacing.[c]				

[a] Belts are available in 1.00 in (25.4 mm) increments beginning with 12 in (305 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

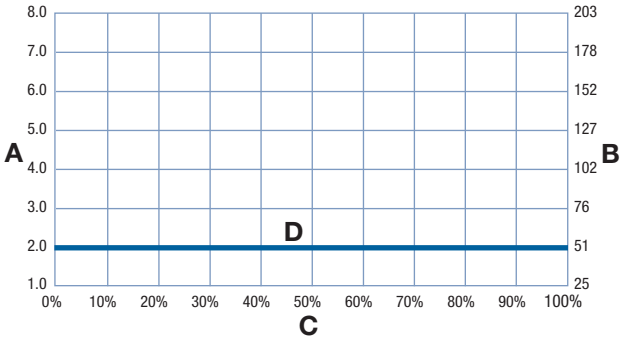
Strength Factor



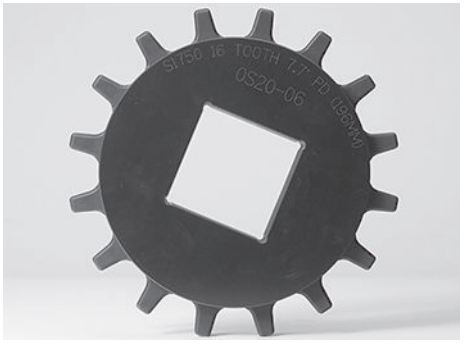
A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

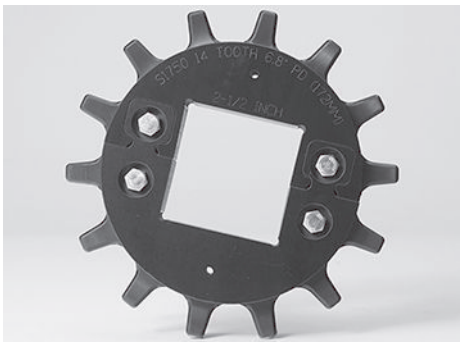
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



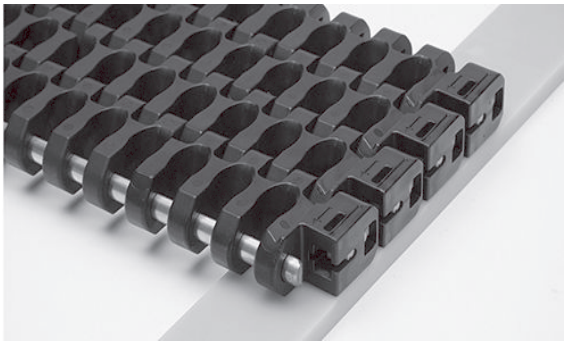
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: Flush Grid

Ultra Abrasion Resistant Polyurethane Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	7.8	198	7.9	201	1.5	38		2.5		60	
22 (1.02%)	10.6	269	10.9	277	1.5	38		2.5, 3.5		60	

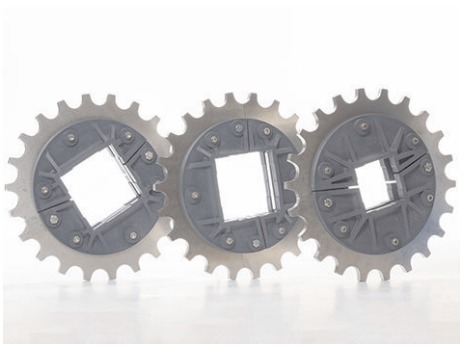
Ultra Abrasion Resistant Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
14 (2.51%)	6.8	173	6.9	175	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	7.8	198	7.9	201	1.5	38		1.5, 2.5		40, 60	
22 (1.02%)	10.6	269	10.9	277	1.5	38		2.5, 3.5		60	

3-Piece Streamline Flights			
Flight Height		Materials	
in	mm		
3.0	76	Low Wear Plus, LMAR	
4.0	102		

- Flight consists of three pieces: the base module, the attachment, and the rod.
- Streamline flights are smooth on both sides.
- Available with zero indent. The first available indent is 1.625 in (41 mm). Contact Intralox Customer Service for more information.
- Flights can be cut as short as 1.5 in (38 mm). If a shorter flight is needed, the flight base module without a flight attachment functions as a 0.75 in (19 mm) raised link. Contact Intralox Customer Service for more information.

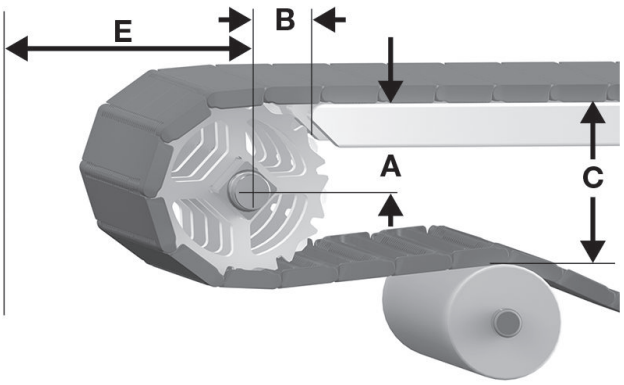
Urethane Wearstrip			
Dimensions		Available Colors	
in	mm		
0.50 x 2 x 216	13 x 51 x 5486	Blue	

- Intended for dry, aqueous, and solid fatty food applications. Do not use for liquid-oil applications.
- Contact Intralox Customer Service for friction and belt strength analysis.
- Temperature range is 32°Fto 120°F (0°C to 49°C).

Split Metal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
22 (1.02%)	10.6	269	10.7	272	1.625	41		2.5, 3.5		90	

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 61: A, B, C, and E drive dimensions

S1750 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid										
6.8	173	14	2.72-2.81	69-71	2.83	72	6.81	173	4.06	103
7.8	198	16	3.21-3.29	82-84	3.04	77	7.77	197	4.54	115
10.6	269	22	4.67-4.73	119-120	3.68	93	10.65	271	5.98	152

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

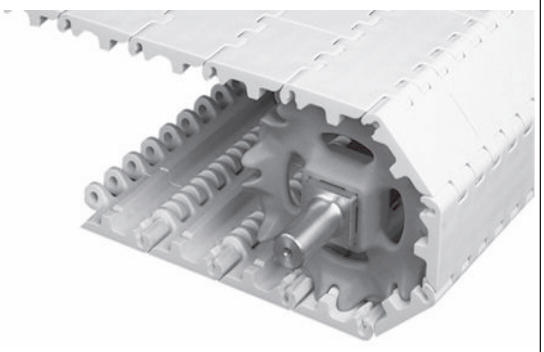
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1750 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
6.8	173	14	0.085	2.2
7.8	198	16	0.075	1.9
10.6	269	22	0.054	1.4

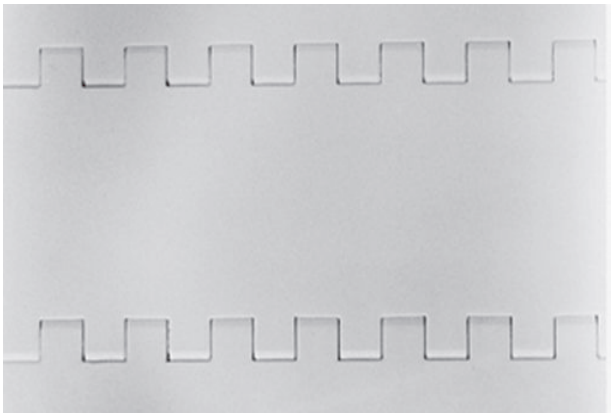
Flat Top

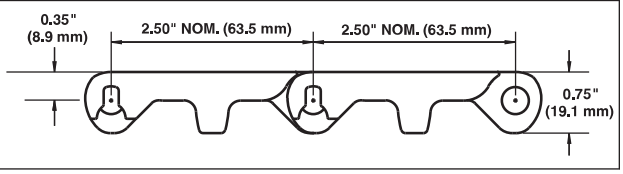
	in	mm
Pitch	2.50	63.5
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact resistant belt designed for abusive applications.
- Like S800 and S1600, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Easy retrofit from S800 without extensive conveyor frame changes for most meat industry applications since the A, B, C, and E dimensions are within 0.25 in (6 mm) of S800.





Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1,200	17,500	34 to 220	1 to 104	2.06	10.06
Acetal	Polyethylene	1,200	17,500	-50 to 150	-46 to 66	3.36	16.40
Acetal	Polypropylene	1,500	21,900	34 to 200	1 to 93	3.36	16.40
X-ray detectable acetal[a]	Polyethylene	1,000	14,600	-50 to 150	-46 to 66	3.77	18.41
PK	PK	1,200	17,500	-40 to 176	-40 to 80	3.02	14.74
X-ray detectable PK	PK	1,200	17,500	-40 to 176	-40 to 80	3.52	17.19

[a] Designed specifically for detection by X-ray machines.

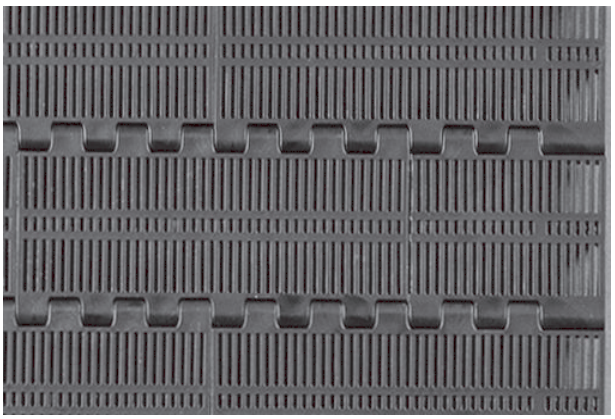
Mesh Top

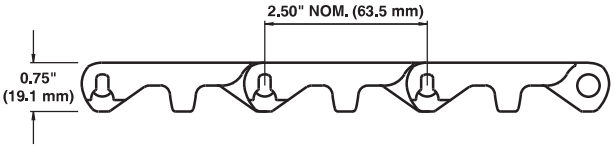
	in	mm
Pitch	2.50	63.5
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.07 × 0.75	1.7 × 19.1
Open Area	32%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges with recessed rods prevent edge damage and rod migration.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flights and other accessories are available.





Belt Data

Belt Material	Default Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	11,700	34 to 220	1 to 104	1.44	7.03
UV resistant acetal	Acetal	1,500	21,900	-50 to 200	-46 to 93	2.27	11.08
Polyethylene	Polyethylene	400	5,840	-50 to 150	-46 to 66	1.50	7.32
Nylon	Nylon	1,000	14,600	-50 to 240	-46 to 116	1.81	8.84

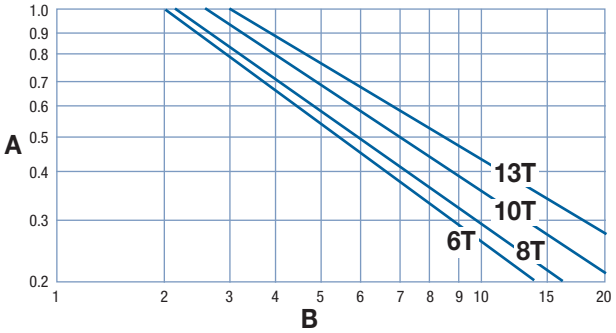
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
9	229	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	7	5	4
42	1,067	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	*8*	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
For other widths, use odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with 5.0 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

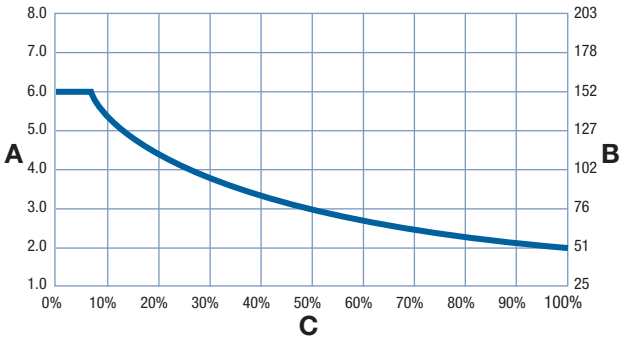
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

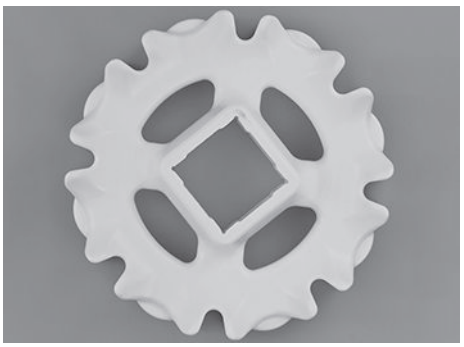
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

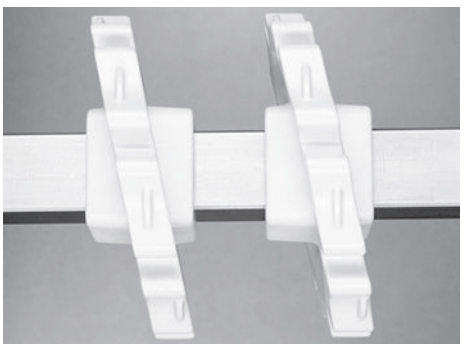
EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	5.0	127	4.6	117	1.5	38		1.5		40
8 (7.61%)	6.5	165	6.2	157	1.5	38		1.5		40
10 (4.89%)	8.1	206	7.8	198	1.5	38		1.5		40
13 (2.91%)	10.5	267	10.3	262	1.5	38		1.5, 2.5		40, 60



Angled EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	6.5	165	6.2	157	2.0	50.8		1.5		40



Impact Resistant Flights			
Available Flight Height		**Available Materials**	
in	**mm**		
4.0	102	Acetal, PK, polyethylene, polypropylene, X-ray detectable acetal	

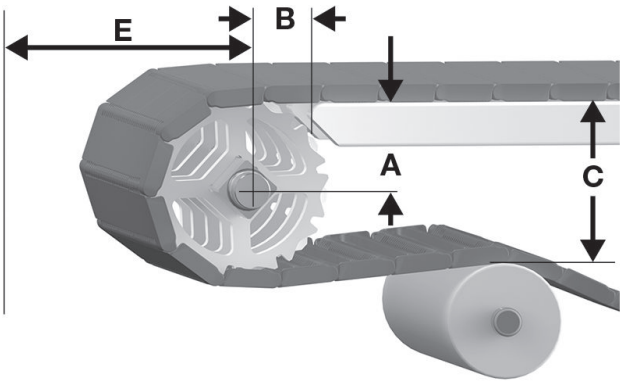
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.

Intralox Belt Puller Set			
Single Belt Puller	**U.S. Units**	**Metric Units**	
Length	14.4 in	365.8 mm	
Width	4.2 in	106.7 mm	
Height	0.5 in	12.7 mm	
Weight	2 lb	0.9 kg	
Belt Puller Set			
Weight	6 lb	2.7 kg	

- Can be used in carryways and returnways to install, close, or open compatible belts.
- Improves worker safety.
- Reduces the number of people required to install or remove large or inclined belts.
- Reduces the risk of belt damage that can lead to foreign material contamination.
- Set includes two belt pullers and one Intralox ratchet strap.
- Solid metal construction with dedicated metal rod that locks into the belt puller.
- Etched QR code on the tool links to an instructional video.
- Compatible with S800, S888, and S1800 belts. For up-to-date compatibility information, contact Intralox Customer Service.

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 62: A, B, C, and E drive dimensions

S1800 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Mesh Top										
5.0	127	6	1.77-2.10	45-53	1.87	47	4.95	126	2.91	74
6.5	165	8	2.62-2.87	66-73	2.23	57	6.48	165	3.68	93
8.1	206	10	3.45-3.65	88-93	2.59	66	8.04	204	4.46	113
10.5	267	13	4.67-4.82	119-123	3.02	77	10.40	264	5.64	143

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

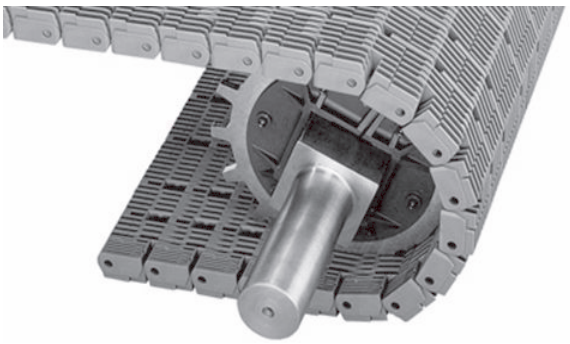
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1800 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.0	127	6	0.150	3.8
6.5	165	8	0.108	2.8
8.1	206	10	0.091	2.3
10.5	267	13	0.074	1.9

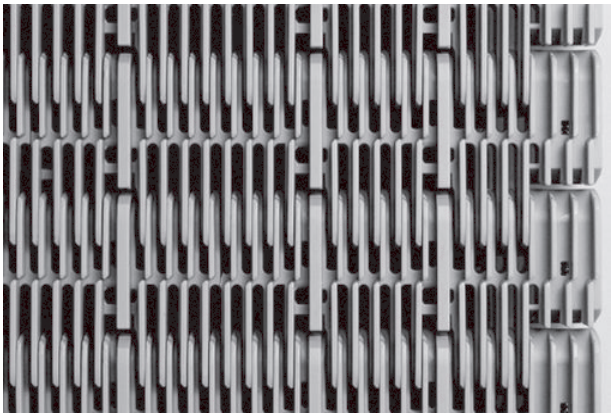
Raised Rib

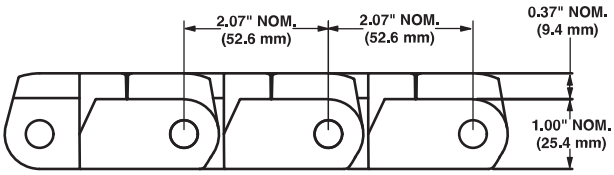
	in	mm
Pitch	2.07	52.6
Minimum Width	15	381
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	27%	
Hinge Style	Closed	
Rod Retention; Rod Type	Shuttleplug; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Increased module thickness and rod diameter provide superior belt strength and increased belt life.
- Tall belt ribs and strong fingers enable robust transfers.
- Engineered resin module material provides increased resistance to chemicals and temperature changes.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimal back tension required for sprocket engagement.
- Split sprockets available for easy installation.





Belt Data

Belt Material	Default Rod Material, Diameter 0.38 in (9.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Polypropylene	4,000	58,400	34 to 220	1 to 104	3.90	19.04

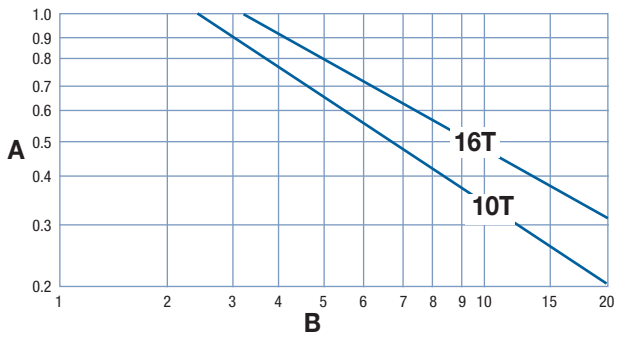
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
15	381	3	3	3
18	457	3	3	3
24	610	5	4	3
30	762	5	5	4
36	914	7	5	4
42	1,067	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	8	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
120	3,048	21	15	11
144	3,658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

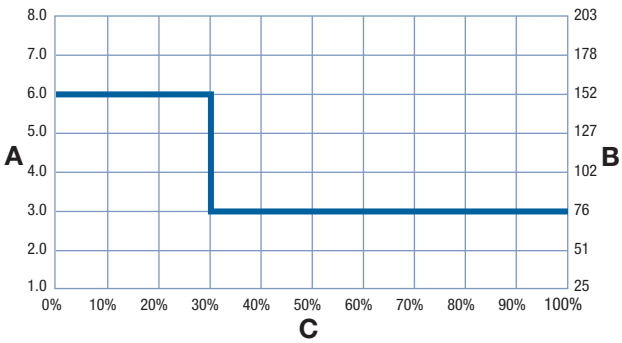
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

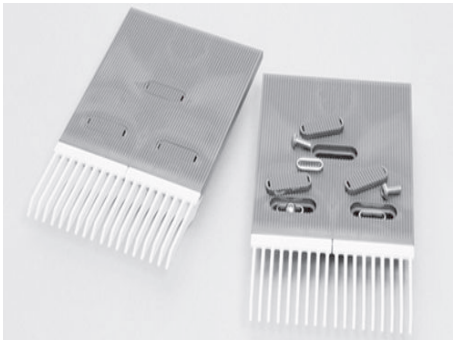
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



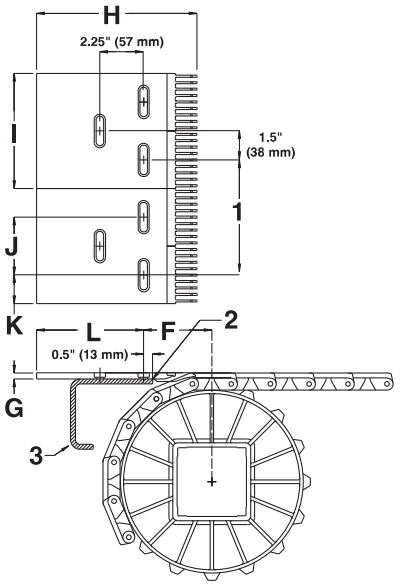
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Split Metal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.7	170	7.0	177	1.7	43		2.5		60	
15 (2.19%)	10.0	254	10.3	262	1.7	43		3.5			
16 (1.92%)	10.6	269	11.0	279	1.7	43	3.5	3.5		90	

Two-Material Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
6.0	152	18	Glass-filled thermoplastic fingers, acetal backplate	

- Provides high-strength fingers combined with a low-friction backplate.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing smooth, continuous product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with supplied shoulder bolts. Caps snap easily into place over the bolts, keeping foreign materials out of the slots.
- The extended backplate has three attachment slots. Mounting hardware is sold separately and includes stainless steel oval washers and bolts. Plastic bolt covers are also included.

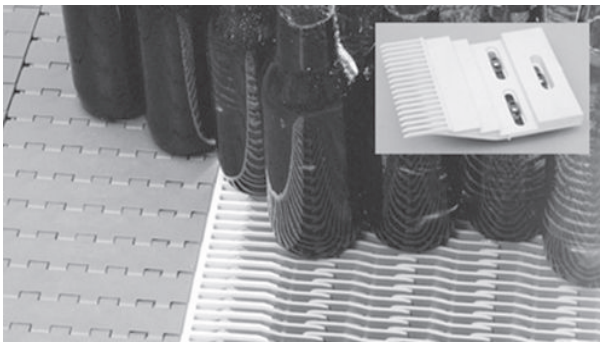
Dimensional Requirements for S1900 Two-Material Finger Transfer Plate Installation		
	in	mm
F	3.50	89
G	0.31	8
H	9.56	243
I	5.91	150
J	3.00	76
K	1.45	37
L	5.50	140
1	5.98	151.9



1 spacing between finger transfer plates, at ambient temperature
2 0.5 in (13 mm) radius (leading edge of frame member)
3 frame member
Figure 63: Finger transfer plate and conveyor assembly

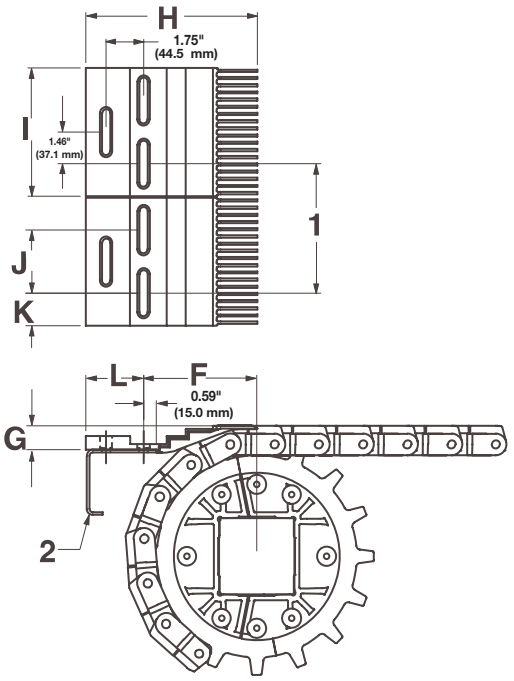
Self-Clearing Finger Transfer Plates[a]			
Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic

- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.



[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for S1900 Self-Clearing Finger Transfer Plate Installation[a]		
	in	mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.93	150.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8
1	5.98	151.9

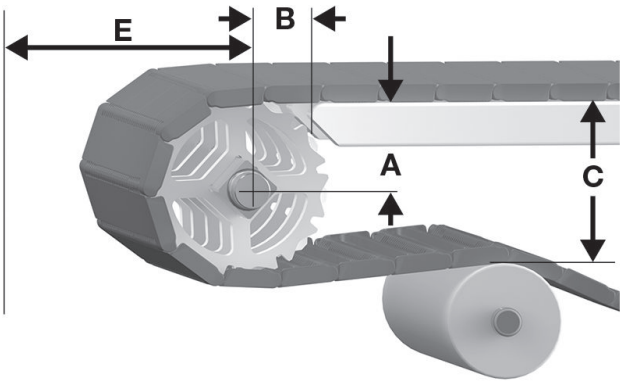


1 spacing between finger transfer plates, at ambient temperature
2 frame member
Figure 64: Finger transfer plate and conveyor assembly

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components
Figure 65: A, B, C, and E drive dimensions

S1900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Raised Rib										
6.7	170	10	2.69-2.85	68-72	2.82	72	7.08	180	4.29	109
10.0	254	15	4.37-4.48	111-114	3.52	89	10.33	262	5.91	150
10.6	269	16	4.71-4.81	120-122	3.65	93	11	279	6.25	159

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

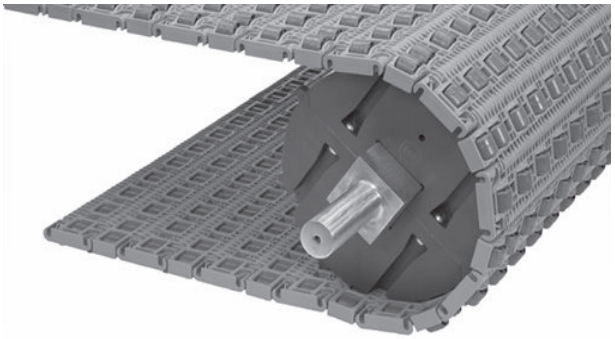
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S1900 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.7	170	10	0.164	4.2
10.0	254	15	0.109	2.8
10.6	269	16	0.102	2.6

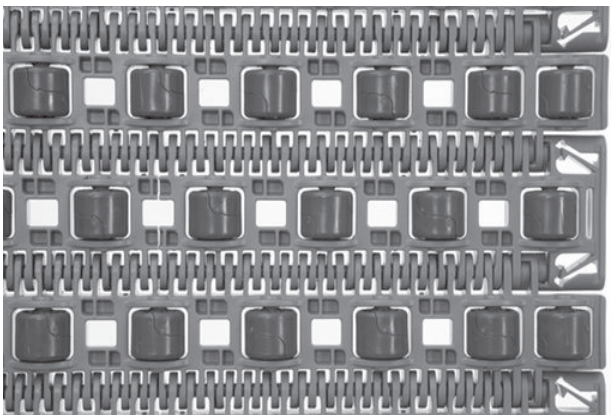
Transverse Roller Top™ (TRT™)

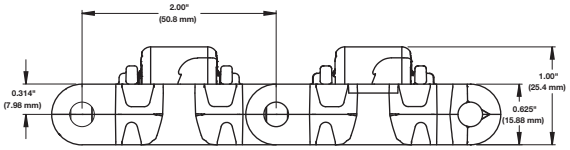
	in	mm
Pitch	2.00	50.8
Minimum Width	8	203
Width Increments	2.00	50.8
Opening Size (approximate)	0.43 x 0.53	10.9 x 13.5
Open Area	17.8%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers with plastic axles.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for 90-degree transfers.
- Sprockets have large lug teeth.
- S4400 alternating tooth, glass-filled split sprockets are recommended.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Adjust belt length in 4 in (10.16 cm), two-row increments.
- Roller diameter: 0.95 in (24.1 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.26 in (6.6 mm).
- Roller spacing: 2 in (50.8 mm), alternating.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,200	32,100	34 to 200	1 to 93	2.25	10.985

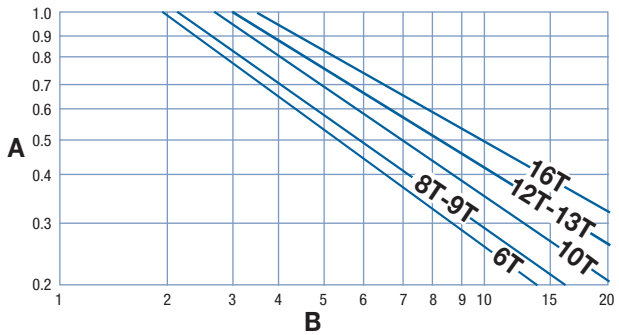
SERIES 4400

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
10-14	254-356	2	3	2
16-18	406-457	3	3	3
20-24	508-610	3	4	3
26	660	4	4	3
28-32	711-813	4	5	3
34-36	864-914	5	5	4
38-42	965-1,067	5	6	4
44	1,118	6	6	5
46-50	1,168-1,270	6	7	5
52-54	1,321-1,372	7	7	5
56-60	1,422-1,524	7	8	6
62	1,575	8	8	6
64-68	1,626-1,727	8	9	6
70-72	1,778-1,829	9	9	6
74-78	1,879-1,981	9	10	7
80	2,032	10	10	7
Maximum 9 in (229 mm) centerline spacing, minimum indent from flush edge			Maximum 9 in (229 mm) centerline spacing	Maximum spacing 12 in (304.8 mm)

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 2.00 in (51 mm) increments beginning with minimum width of 10 in (254 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

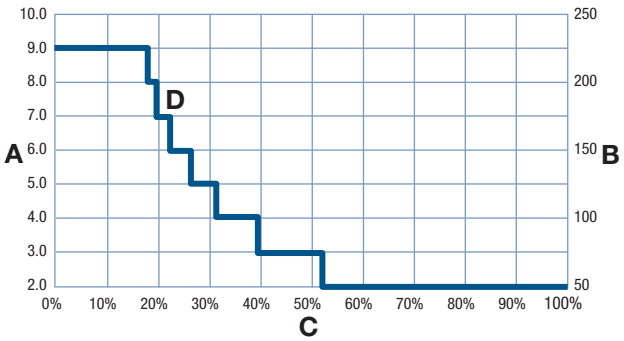
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

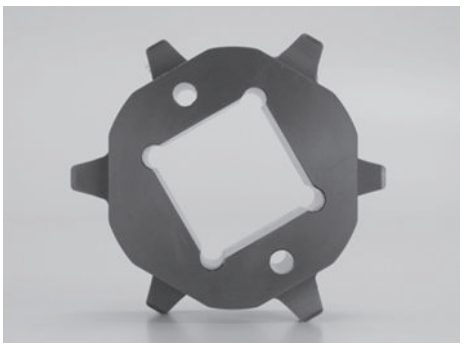
Sprocket Spacing as a Function of Belt Strength Utilized

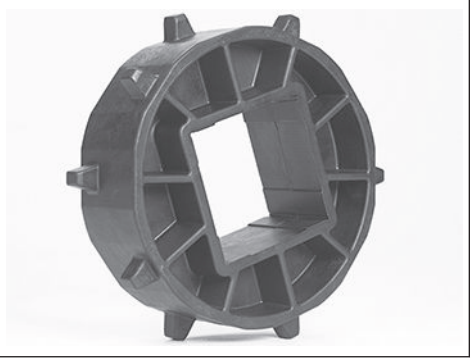


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: square bore sprockets

Glass-Filled Nylon Alternating Tooth Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.5	165	1.95	50		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.8	198	1.95	50		1.5, 2.5		40, 60	
16 (1.92%)	10.3	262	10.4	264	1.95	50		1.5, 2.5		40, 60	

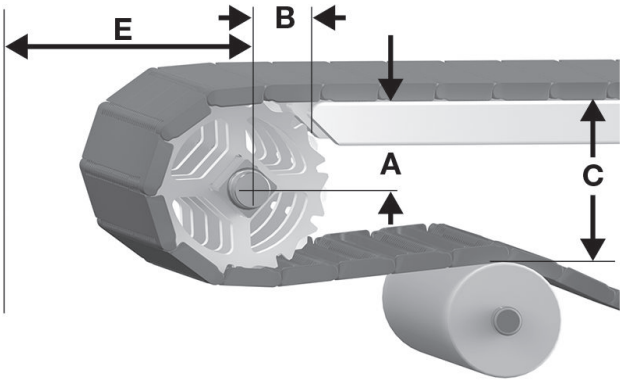
Nylon Alternating Tooth Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.3	135	5.5	140	1.9	48		1.5		40	
16 (1.92%)	10.3	262	10.5	267	1.9	48		3.5			

Nylon Alternating Tooth Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
6 (13.40%)	4.0	102	3.8	97	1.9	48		1.5		40	

Glass-Filled Nylon Alternating Tooth Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.5	165	2.0	51		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.8	198	2	51		1.5, 2.5		40, 60	
16 (1.92%)	10.3	262	10.4	264	2	51		2.5		60	

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

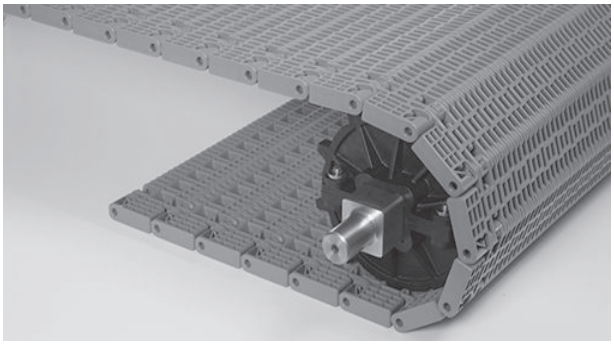
Figure 66: A, B, C, and E drive dimensions

S4400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Transverse Roller Top										
4.0	102	6	1.43-1.70	36-43	1.85	47	4.40	112	2.76	70
5.3	135	8	2.12-2.32	54-59	2.24	57	5.64	143	3.38	86
6.5	165	10	2.79-2.95	71-75	2.39	61	6.90	175	4.01	102
7.8	198	12	3.45-3.58	88-91	2.64	67	8.16	207	4.64	118
10.3	262	16	4.75-4.85	121-123	3.10	79	10.70	272	5.91	150

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

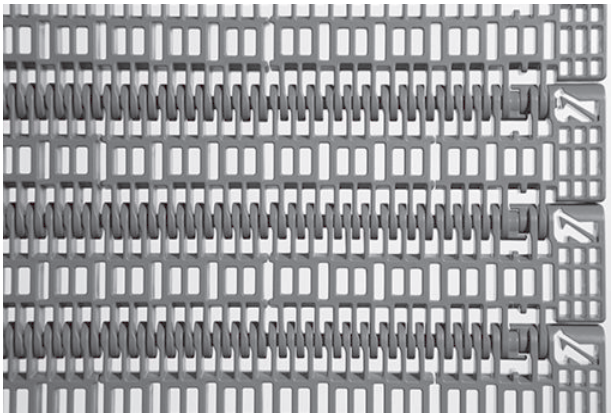
Flush Grid

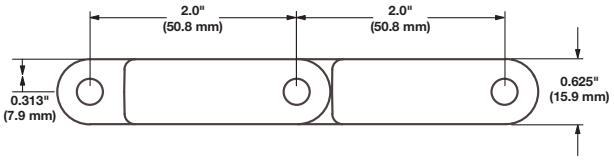
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.24 x 0.23	6.1 x 5.8
Open Area	35%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- Opening size prevents 0.25 in (6.35 mm) or larger bolt from falling through the belt surface.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets have large lug teeth.



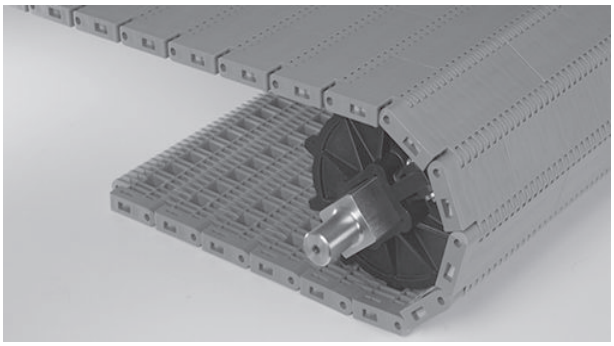


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,400	35,000	34 to 220	1 to 104	1.54	7.52
Polypropylene	Polypropylene	2,200	32,100	34 to 220	1 to 104	1.54	7.52

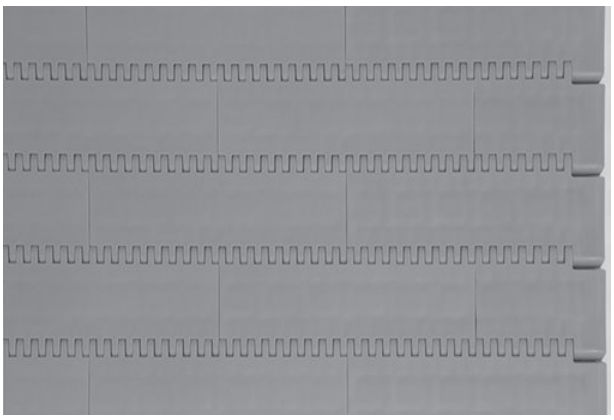
Flat Top

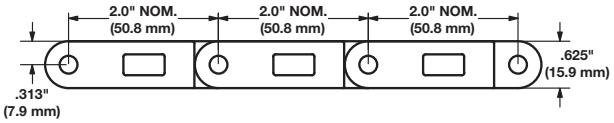
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface.
- Fully flush edges.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.



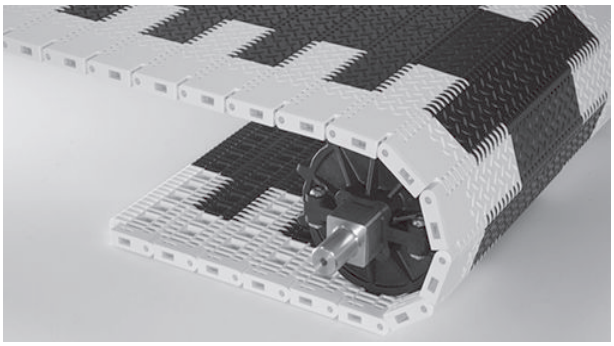


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4,400	64,200	-50 to 200	-46 to 93	3.07	14.96
HSEC acetal	Nylon	4,100	59,800	-50 to 200	-46 to 93	3.08	15.04
AC/EC	Nylon	4,400	64,200	-50 to 200	-46 to 93	3.08	15.04
Polypropylene	Nylon	2,900	42,300	34 to 220	1 to 104	1.97	9.62
Easy Release Traceable polypropylene	Nylon	2,500	36,500	34 to 220	1 to 104	2.26	11.03

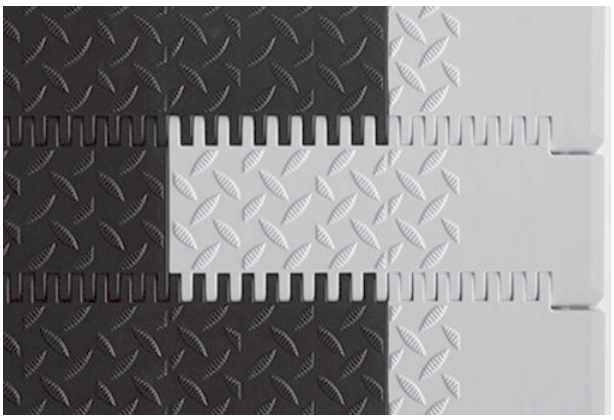
Non Skid

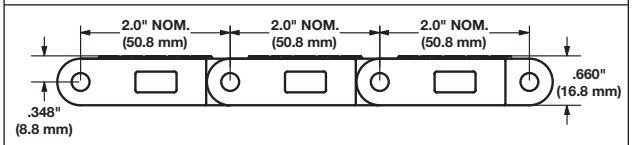
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Edges have Flat Top surface with no tread pattern.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Diamond tread pattern provides a non-skid walking surface to increase safety.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Flat Top indent: 2.0 in (50 mm) from the belt edge.



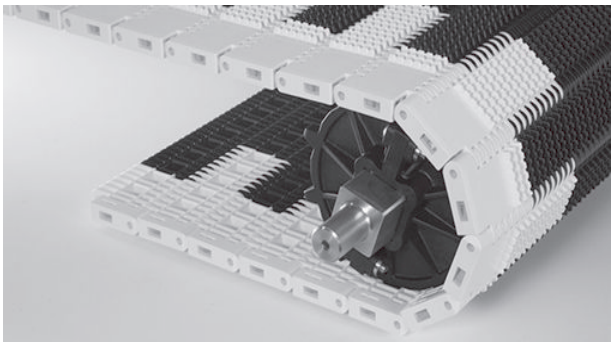


Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4,400	64,200	-50 to 200	-46 to 93	3.09	15.09
HSEC acetal	Nylon	4,100	59,800	-50 to 200	-46 to 93	3.10	15.14
AC/EC	Nylon	4,400	64,200	-50 to 200	-46 to 93	3.10	15.14
Polypropylene	Nylon	2,900	42,300	34 to 220	1 to 104	1.98	9.67

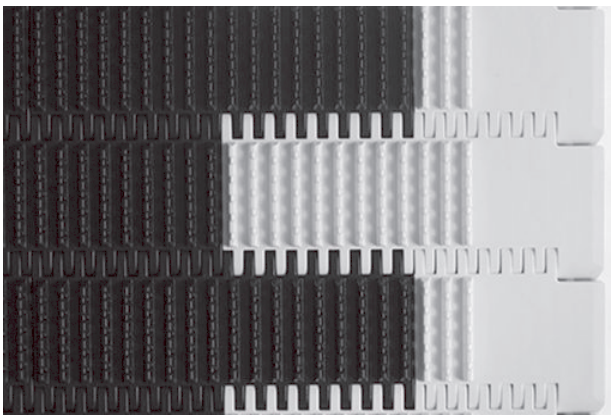
Non Skid Raised Rib

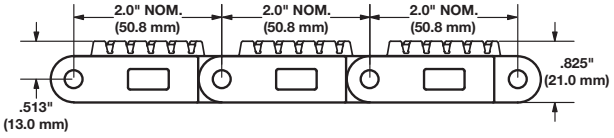
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Edges have Flat Top surface with no tread pattern.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Non-skid tread pattern increases safety.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Finger transfer plates are available. Finger transfer plates remove debris from the belt surface.
- Flat Top indent: 2.0 in (50 mm) from the belt edge.





Belt Data

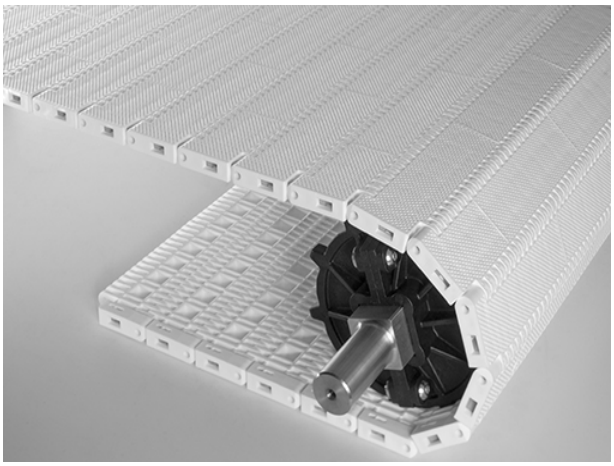
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4,400	64,200	-50 to 200	-46 to 93	3.39	16.55
HSEC acetal	Nylon	4,100	59,800	-50 to 200	-46 to 93	3.39	16.55
AC/EC	Nylon	4,400	64,200	-50 to 200	-46 to 93	3.39	16.55

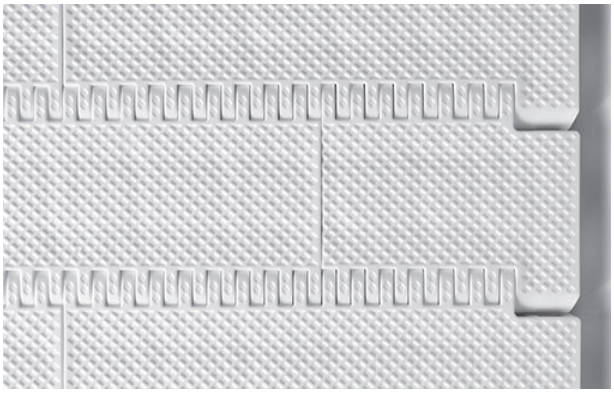
Embedded Diamond Top

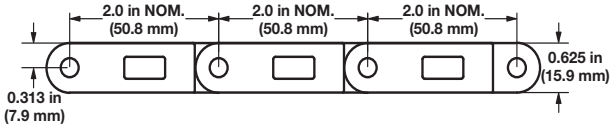
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127.0
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox®; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges
- The Embedded Diamond Top pattern allows sticky materials to release easily from the belt.
- Slidelox are glass-reinforced polypropylene.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.







Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2,900	42,300	34 to 220	1 to 104	1.97	9.62
Easy Release traceable polypropylene	Nylon	2,500	36,500	34 to 220	1 to 104	2.26	11.03

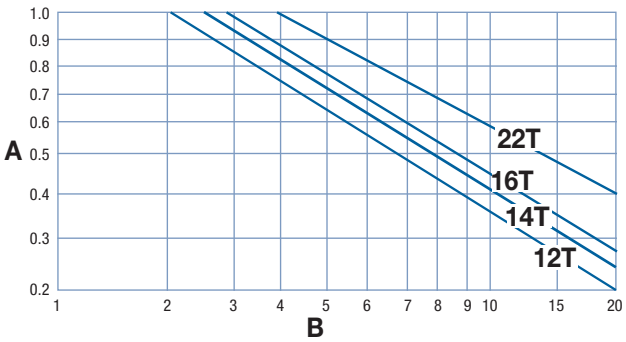
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1,087	7	6	5
48	1,219	9	7	5
54	1,372	9	7	6
60	1,524	11	8	6
72	1,829	13	9	7
84	2,134	15	11	8
96	2,438	17	12	9
120	3,048	21	15	11
144	3,658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

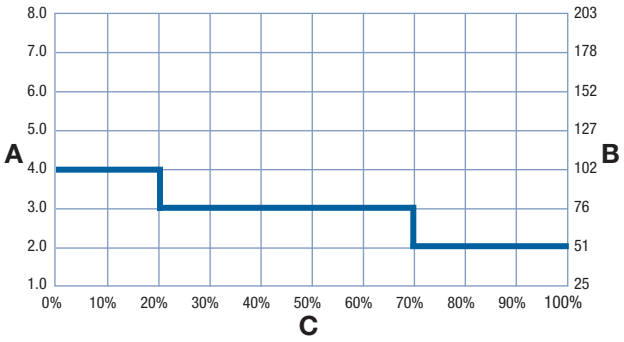
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

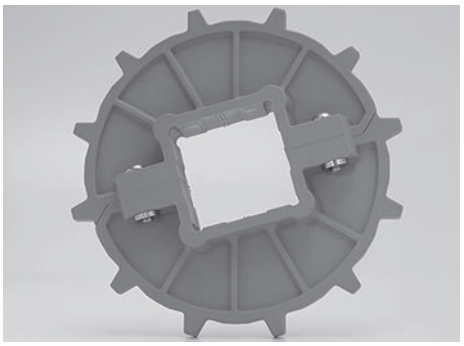
To determine the speed/length ratio, divide the belt speed (V) by the shaft centerline distance (L). The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

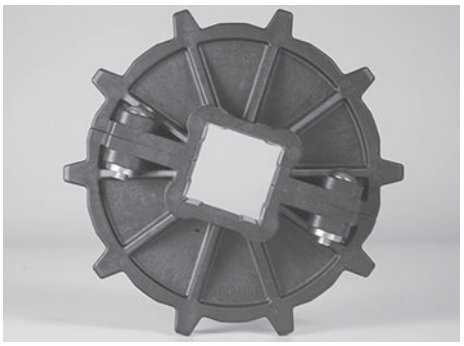
Enduralox Polypropylene Composite Split Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.7	170	1.5	38		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	8	203	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)[b]	10.3	262	10.5	267	1.5	38	2.5, 3.5	2.5	60, 90	60	

[a] Hardware made from 316 stainless steel.
[b] Bores are over-sized.

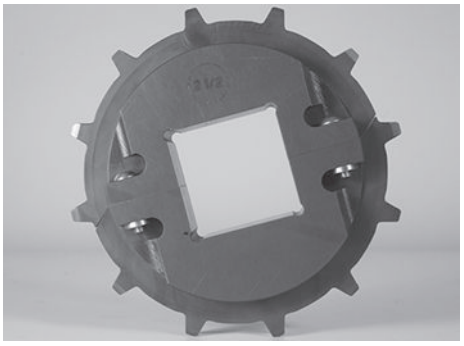
SERIES 4500

Glass-Filled Nylon Split Sprockets

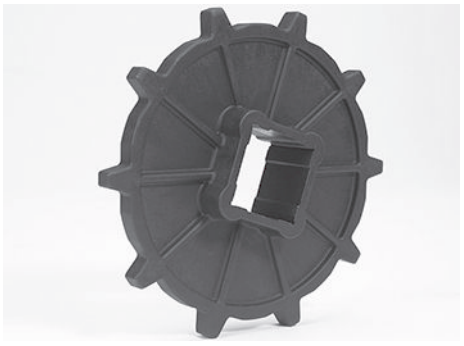
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.7	170	1.45	37		1.5[a], 2.5		40[a], 60	
12 (3.41%)	7.8	198	8	203	1.45	37		1.5[a], 2.5, 3.5		40[a], 60, 90	
16 (1.92%)	10.3	262	10.5	267	1.45	37		2.5, 3.5		60, 90	

[a] 1.5 in and 40-mm bores have a hub width of 1.95 in (50 mm).

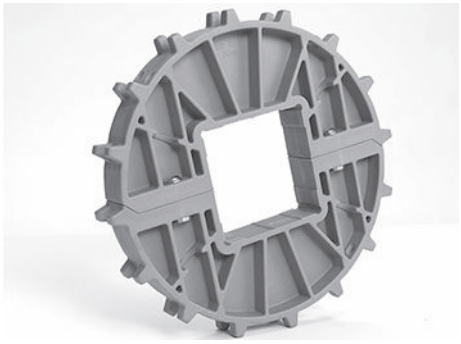
Nylon Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	10.3	262	10.5	267	1.95	50		1.5		40	

Glass-Filled Nylon Sprockets

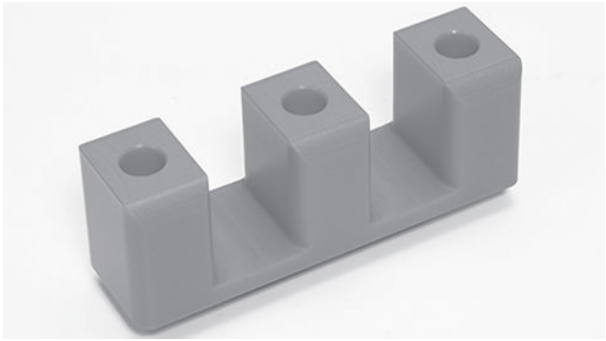
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.5	165	1.45	37		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.8	198	1.45	37		1.5, 2.5		40, 60	

Enduralox Polypropylene Composite Dual Tooth Split Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	10.3	262	10.5	267	1.5	38		3.5[b]		90[b]	

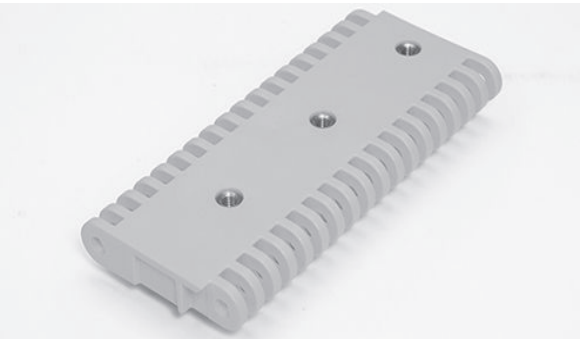
[a] Hardware made from 316 stainless steel
[b] Bores are over-sized.

Flat Top Wheel Chocks

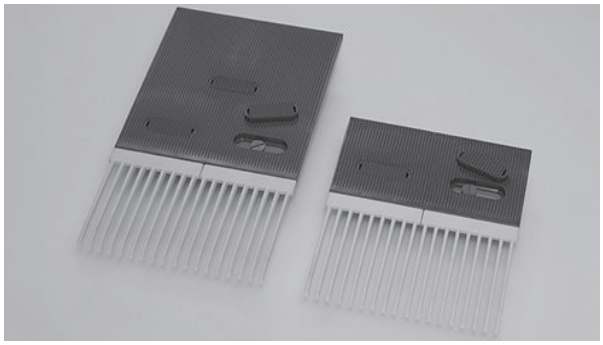
Available Height		Available Width		Available Materials	
in	mm	in	mm		
1.6	41	5	127	UHMW	
1.97	50	5	127	UHMW	

- Fasteners and modified S4500 Flat Top modules are required.
- Fastener torque specification: 40-45 in-lbf (4.5-5 N-m).
- Minimum indent from the edge of the belt without wheel chocks: 2.0 in (50 mm).

Insert Nuts

Available Base Belt Style; Material	Available Insert Nut Sizes	
Flat Top; Acetal	6 mm –1 mm	
Flat Top; Polypropylene	6 mm –1 mm	

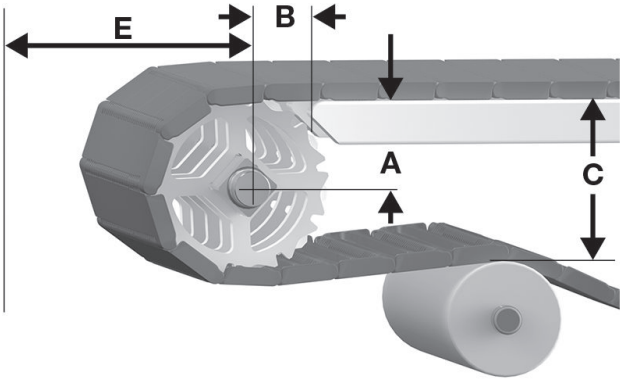
- Insert nuts allow easy attachment of fixtures to the belt.
- Square insert nuts are provided. The square flange ensures that the insert nut stays in place when the bolt is tightened or loosened.
- Ensure that attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- Do not locate sprockets in-line with the insert nuts. Contact Intralox Customer Service for sprocket and insert nut placement.
- Fasteners and modified Series 4500 Flat Top modules are required.
- Fastener torque specification: 40-45 in-lbf (4.5-5.0 N-m).
- Minimum indent from the belt edge: 3.5 in (89 mm)
- Minimum distance between nuts along the length of the belt: 1.0 in (25 mm)
- Contact Intralox Customer Service for assistance with insert nut placement.

Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
6	152	18	Glass-filled thermoplastic fingers, acetal backplate	

- For use with Series 4500 Non Skid Raised Rib belt styles.
- Fingers extend between the ribs to prevent hardware from dropping off the end of the conveyor.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates.
- Easily installed on the conveyor frame.
- Available in two different configurations. The standard configuration features long fingers with a short backplate. Standard Extended Back configuration features long fingers with an extended backplate. The short backplate has two attachment slots and the extended backplate has three attachment slots.

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 67: A, B, C, and E drive dimensions

S4500 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.47	164	3.61	92
7.8	198	12	3.46-3.59	88-91	2.63	67	7.80	198	4.28	109
10.3	262	16	4.71-4.81	120-122	3.15	80	10.25	260	5.50	140
Non Skid										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.56	167	3.70	94
7.8	198	12	3.46-3.59	88-91	2.63	67	7.89	200	4.36	111
10.3	262	16	4.71-4.81	120-122	3.15	80	10.34	263	5.59	142

S4500 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Non Skid Raised Rib										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.67	169	3.81	97
7.8	198	12	3.46-3.59	88-91	2.63	67	8.00	203	4.48	114
10.3	262	16	4.71-4.81	120-122	3.15	80	10.45	265	5.70	145

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

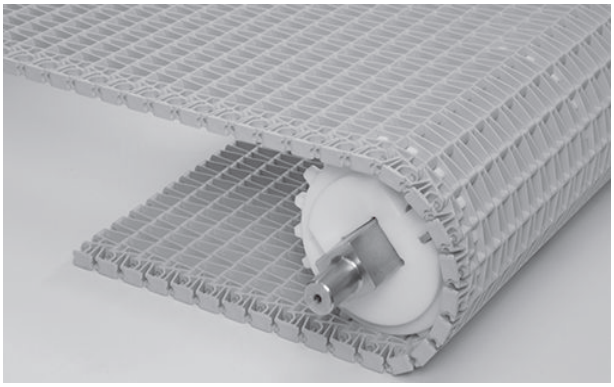
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S4500 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
6.4	163	10	0.160	4.1
7.8	198	12	0.130	3.3
10.1	257	16	0.100	2.5

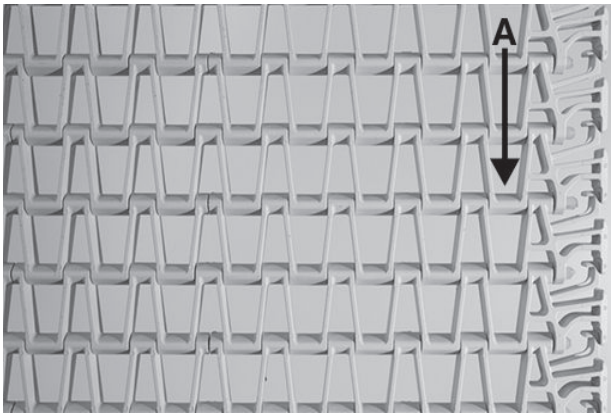
Flush Grid

	in	mm
Pitch	1.01	25.7
Minimum Width	6	152.4
Width Increments	1.00	25.4
Opening Size (approximate)	0.7 x 0.5	17.8 x 12.7
Open Area	58%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

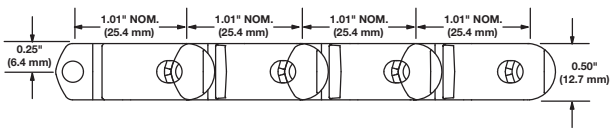


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open surface enhances spray-through cleaning performance and airflow cooling performance, depending on the application.
- PVDF is a polymer material proven for long-term use in washer environments.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Available with split steel sprockets for longer sprocket life and easier replacement.
- Easy to retrofit from existing steel belting with virtually no conveyor changes.



A preferred run direction



Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
PVDF	PVDF	1,000	14,600	34 to 200	1 to 93	1.57	7.64
Polypropylene	Polypropylene	750	10,900	34 to 220	1 to 104	0.82	4.00
Acetal	Polypropylene	900	13,100	34 to 200	1 to 93	1.14	5.57

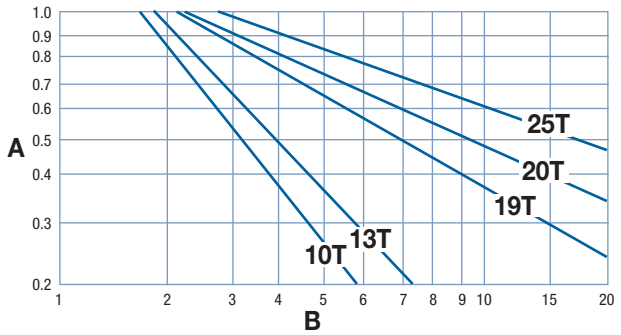
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
12	305	3	2	Minimum 3 in (76.2 mm) diameter rollers.
24	610	6	4	
36	914	9	6	
48	1,219	12	8	
60	1,524	15	10	
72	1,829	18	12	
84	2,134	21	14	
96	2,438	24	16	
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]				

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 6 in (152.4 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

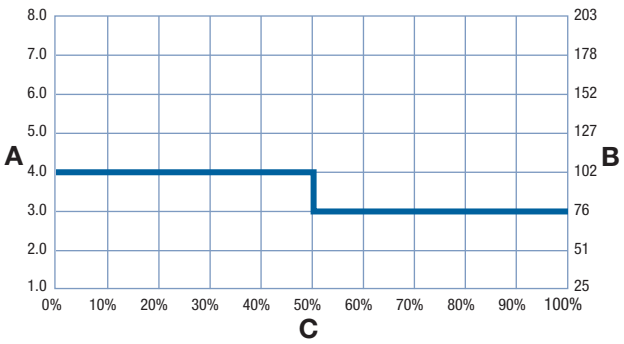
Strength Factor



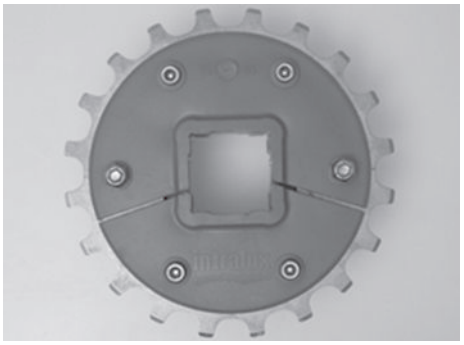
A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

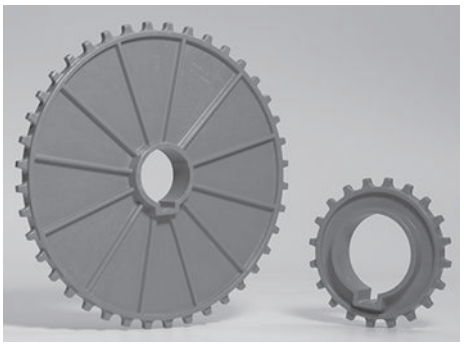
Split Metal Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
20 (1.23%)	6.5	165	6.5	165	1.7	43	2-3/16, 2-7/16, 2-11/16, 3-7/16	2.5			
25 (0.8%)	8.1	206	8.1	206	1.7	43	2-7/16, 2-11/16, 3-7/16	2.5	90		

[a] Split metal sprocket is made of 316 stainless steel.

UHMW Polyethylene Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
40 (0.31%)	12.9	328	13.0	330	1.48	38	2-7/16, 2-11/16, 3-7/16		60		

Nylon FDA Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.90%)	4.2	107	4.2	107	1.48	38	1-1/4	1-1/2		40	
19 (1.38%)	6.1	155	6.1	155	1.48	38	1-1/4	1-1/2		40	

Acetal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
20 (1.23%)	6.5	165	6.5	165	0.75	19		1.5			

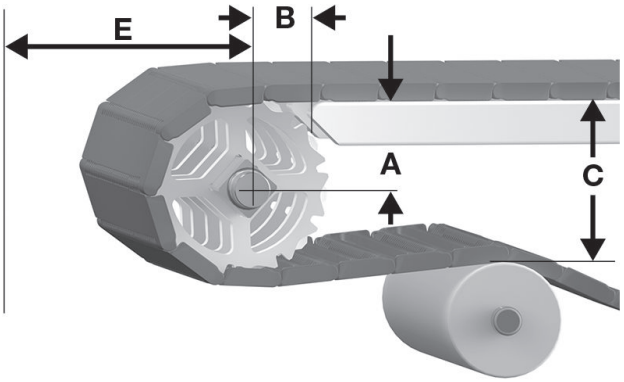
Enduralox Polypropylene Composite Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
20 (1.23%)	6.5	165	6.5	165	1.48	38	2-7/16, 3-7/16		90		
25 (0.8%)	8.1	206	8.1	206	1.48	38	2-7/16, 3-7/16		90		
40 (0.31%)	12.9	328	13.0	330	1.48	38	2-11/16		60		

Flat Top Base Flights (No-Cling)			
Available Flight Height		Available Materials	
in	mm		
3	76	Polypropylene, nylon	

- No-Cling vertical ribs are on both sides of the flight.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 2.0 in (50.8 mm).

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components
Figure 68: A, B, C, and E drive dimensions

S9000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid										
3.3	84	10	1.30-1.38	33-35	1.65	42	3.26	83	1.95	50
4.2	107	13	1.80-1.86	46-47	1.85	47	4.22	107	2.42	61
6.1	155	19	2.78-2.82	71-72	2.23	57	6.14	156	3.38	86
6.5	165	20	2.94-2.98	75-76	2.35	60	6.46	164	3.54	90
8.1	206	25	3.75-3.78	95-96	2.63	67	8.06	205	4.34	110

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

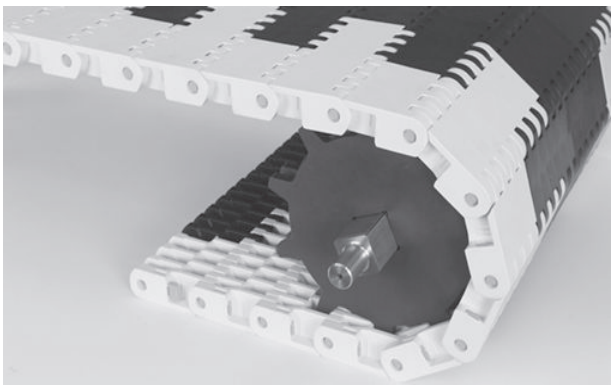
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S9000 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.3	84	10	0.081	2.1
4.2	107	13	0.061	1.5
6.1	155	19	0.042	1.1
6.5	164	20	0.040	1.0
8.1	205	25	0.032	0.8

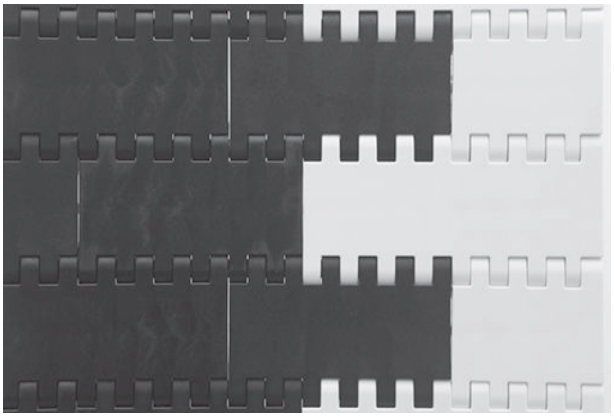
Flat Top

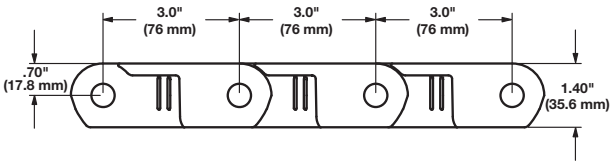
	in	mm
Pitch	3.0	76
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 1,000 Ohms according to IEC 62631.
- Slidelox are an acetal copolymer.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Wheel chock attachments are available.



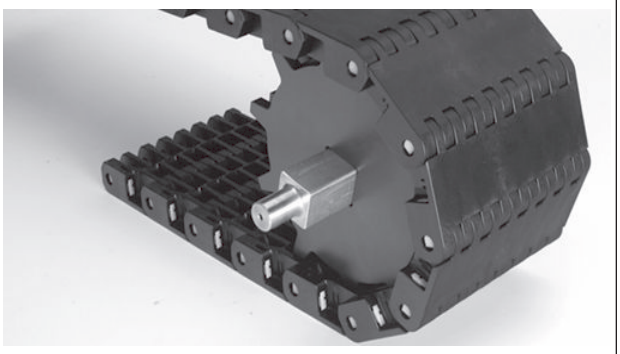


Belt Data

Belt Material	Default Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	10,000	146,000	-50 to 200	-46 to 93	6.36	31.05
HSEC acetal	Nylon	8,000	117,000	-50 to 200	-46 to 93	6.36	31.05

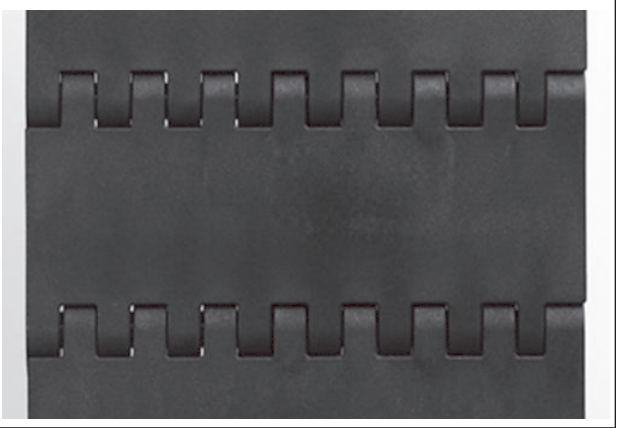
Mold to Width Flat Top

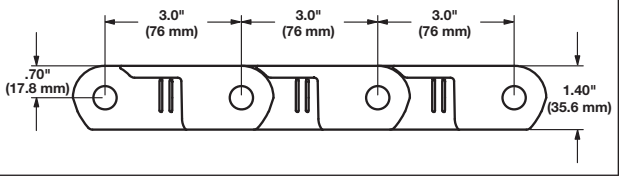
	in	mm
Pitch	3.0	76
Molded Widths	3.9	100
	7.9	200
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 1,000 Ohms according to IEC 62631.
- Slidelox are an acetal copolymer.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.



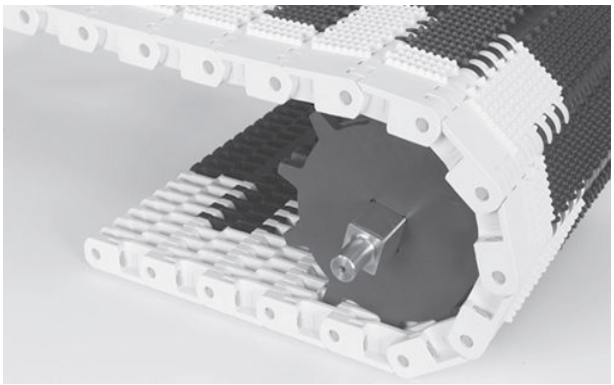


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m
Acetal	3.9	100	Nylon	2,500	11,100	-50 to 200	-46 to 93	2.08	3.10
Acetal	7.9	200	Nylon	5,800	25,800	-50 to 200	-46 to 93	4.15	6.18
HSEC acetal	3.9	100	Nylon	2,000	8,900	-50 to 200	-46 to 93	2.08	3.10
HSEC acetal	7.9	200	Nylon	4,700	20,900	-50 to 200	-46 to 93	4.15	6.18

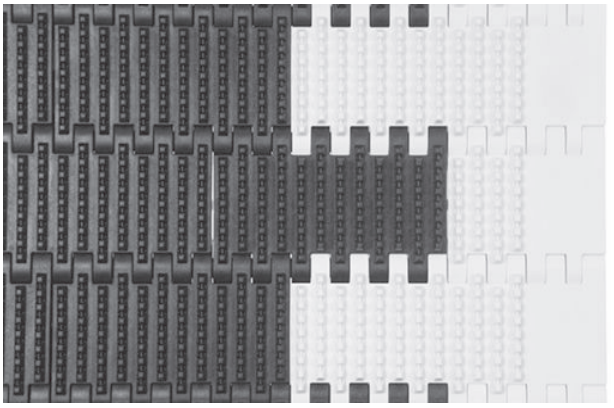
Non Skid Raised Rib

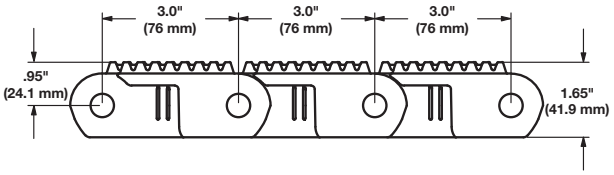
	in	mm
Pitch	3.0	76
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Tread pattern provides a non-skid walking surface to increase safety.
- Edges have a Flat Top surface, with no tread pattern.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are an acetal copolymer.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 1,000 ohms according to IECE 62631.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Wheel chocks are available. Use Series 10000 Flat Top modules to mount the wheel chocks.
- Flat Top indent: 2.0 in (50 mm) from belt edge.





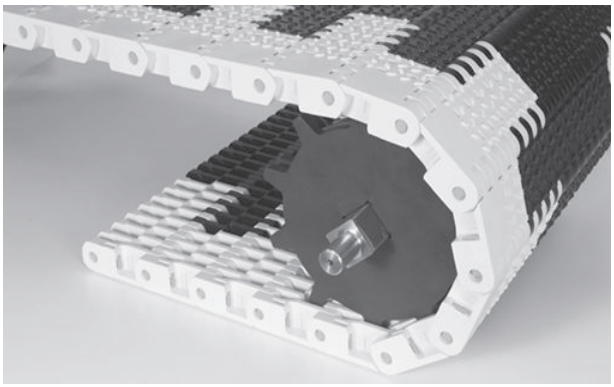
Belt Data

Belt Material	Default Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	8,000	117,000	-50 to 200	-46 to 93	6.85	33.44

SERIES 10000

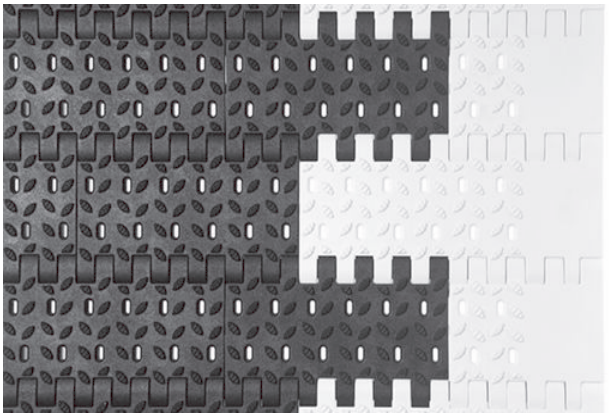
Non Skid Perforated

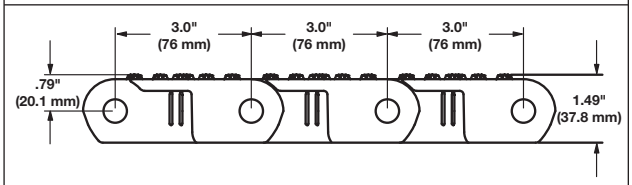
	in	mm
Pitch	3.00	76.2
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Size (approximate)	0.10 x 0.31	2.8 x 7.9
Open Area	3%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges have a Flat Top surface with no tread pattern.
- Open slots improve drainage. Diamond tread pattern provides a non-skid walking surface to increase safety.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are an acetal copolymer.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 1,000 Ohms according to IEC 62631.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Wheel chocks are available. Use Series 10000 Flat Top modules to mount the wheel chocks.
- Flat Top indent: 1.97 in (50.0 mm) from edge of belt.





Belt Data

Belt Material	Default Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	10,000	146,000	-50 to 200	-46 to 93	6.48	31.64
HSEC acetal	Nylon	8,000	117,000	-50 to 200	-46 to 93	6.48	31.64

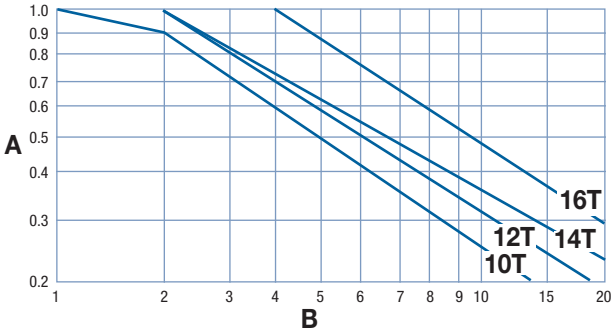
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
3	100	1	2	2
5.9	150	1	2	2
7.9	200	2	2	2
9.8	250	2	3	2
11.9	300	3	3	2
13.8	350	3	3	3
15.7	400	3	3	3
17.7	450	3	3	3
19.7	500	3	4	3
23.6	600	5	4	3
29.5	750	5	5	4
31.5	800	5	5	4
35.4	900	7	5	4
41.3	1,050	7	6	5
47.2	1,200	7	7	5
53.1	1,350	9	7	6
59.1	1,500	9	8	6
70.9	1,800	13	9	7
82.7	2,100	21	11	8
94.5	2,400	23	12	9
118.1	3,000	29	15	11
143.7	3,650	35	17	13
145.7	3,700	37	18	14
147.6	3,750	37	18	14
149.6	3,800	37	18	14
151.6	3,850	37	18	14
153.5	3,900	41	19	14
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.97 in (50 mm) increments beginning with a minimum width of 3.94 in (100 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. Sprockets require a maximum 5.91 in (150 mm) centerline spacing.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

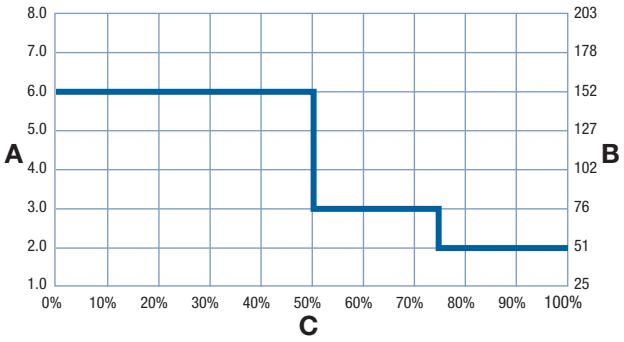
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

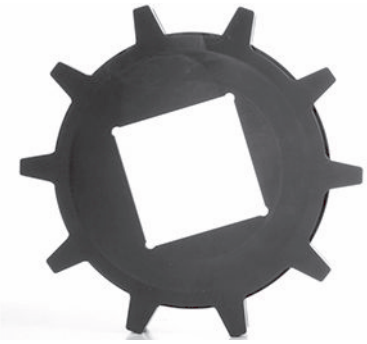
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Nylon Sprockets

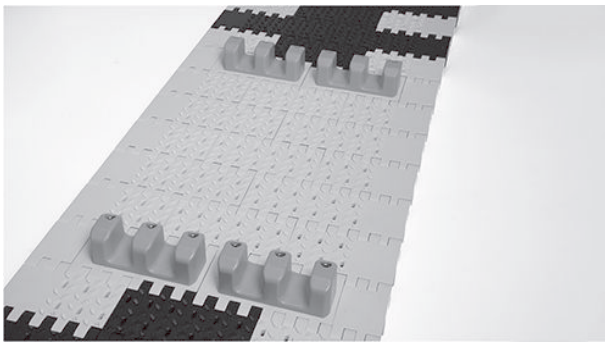
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.70%)	9.9	251	9.7	246	1.5	38		3.5		90
12 (3.29%)	11.8	300	11.7	297	1.5	38		3.5		90
14 (2.43%)	13.7	348	13.6	345	1.5	38		3.5		90
16 (1.84%)	15.7	399	15.6	396	1.5	38		3.5	100, 120, 140	90



Flat Top Wheel Chocks and Side Wheel Chocks

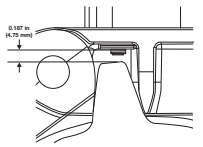
Available Height		Available Width		Available Materials
in	mm	in	mm	
0.8	20	1.5	37	Nylon
1.6	40	4.9	125	Nylon
2	50	4.9	125	Nylon

- Fasteners and modified S10000 Flat Top modules are required.
- Minimum indent without wheel chocks is 2.0 in (50 mm).



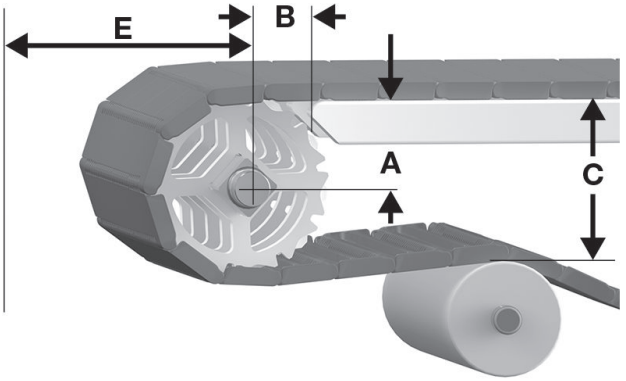
Insert Nuts			
Base Belt Style	**Material**	**Insert Nut Sizes**	
Flat Top	Acetal	6 mm–1 mm, 8 mm–1.25 mm	

- Insert Nuts easily allow the attachment of fixtures to the belt.
- Insert nuts are square. The square flange ensures that the insert nut stays in place when the bolt is tightened or loosened.
- Ensure that attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for your individual belt specifications.
- Sprockets can be located in-line with insert nuts if a 0.187 (4.75 mm) clearance is maintained. Contact Intralox Customer Service for the appropriate bolt length to fit the application.
- The fastener torque specification: 40-45 in lbf (4.5-5.0 N-m).
- Minimal indent from the edge of the belt: 1.22 in (31 mm)
- Minimal distance between nuts across the width of the belt 0.492 in (12.5 mm)
- Spacing along the length of the belt: 3 in (76 mm) increments.



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 69: A, B, C, and E drive dimensions

S10000 Conveyor Frame Dimensions										
Sprocket Description			**A**		**B**		**C**		**E**	
Pitch Diameter		**Number of Teeth**	**Range (Bottom to Top)[a]**							
in	**mm**		**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**
Flat Top										
9.9	251	10	4.02-4.25	102-108	3.33	85	9.90	251	5.71	145
11.8	300	12	5.01-5.20	127-132	3.73	95	11.80	300	6.66	169
13.7	348	14	5.98-6.15	152-156	4.03	102	13.70	348	7.61	193
15.7	399	16	7.01-7.15	178-182	4.33	110	15.70	399	8.61	219

S10000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Non Skid Raised Rib										
9.9	251	10	4.02-4.25	102-108	3.33	85	10.15	258	5.96	151
11.8	300	12	5.01-5.20	127-132	3.73	95	12.05	306	6.91	176
13.7	348	14	5.98-6.15	152-156	4.03	102	13.95	354	7.86	200
15.7	399	16	7.01-7.15	178-182	4.33	110	15.95	405	8.86	225
Non Skid Perforated										
9.9	251	10	4.02-4.25	102-108	3.33	85	9.99	254	5.80	147
11.8	300	12	5.01-5.20	127-132	3.73	95	11.89	302	6.75	171
13.7	348	14	5.98-6.15	152-156	4.03	102	13.79	350	7.70	196
15.7	399	16	7.01-7.15	178-182	4.33	110	15.79	401	8.70	221

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S10000 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
9.9	251	10	0.233	5.9
11.8	300	12	0.194	4.9
13.7	348	14	0.166	4.2
15.7	399	16	0.145	3.7

RADIUS BELTS

ENGINEERING ANALYSIS FOR SPIRAL AND RADIUS BELTS

Intralox can provide an engineering analysis for spiral and radius applications, to determine the estimated belt pull, and ensure that the belt is strong enough for the application. Contact Intralox Customer Service for more information.

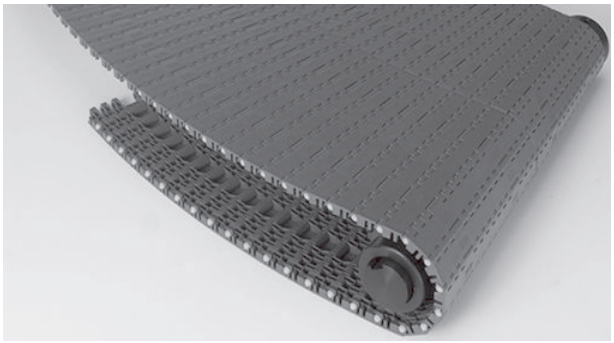
The following information is required for an engineering analysis:

- Any environmental conditions which can affect the friction coefficient. For dirty or abrasive conditions, use higher-than-normal friction coefficients.
- Belt width
- Length of each straight section
- Angle, direction, and inside radius of each turning section
- Carryway and hold down wearstrip materials.
- Product load lbf/ft^2 (N/m^2)
- Product accumulation conditions
- Belt speed
- Elevation changes in each section
- Operating temperatures
- Sprocket and shaft specifications

Intralox can help select radius belt and low-tension capstan drive spiral belts for your application. Contact Intralox Customer Service for more information.

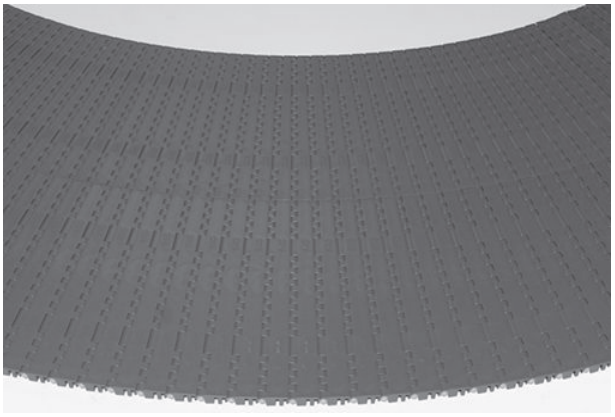
ZERO TANGENT™ Radius Flat Top

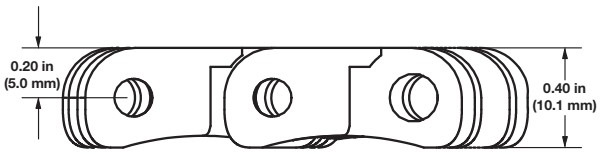
	in	mm
Row-to-Row Angle	1.33 degrees	
Maximum Width	55.12	1400
Minimum Width	7.87	200
Width Increments	7.87	200
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt shape completely eliminates the need for straight sections before and after turns.
- Pitch distance changes, depending upon the location of the module from the center of the turn.
- Uses nylon rods.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Intralox provides complete design guidelines, which minimize engineering design investment.
- Designed for radius applications with a minimum inside-turn radius of 23.62 in (600 mm).





Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	907	13,200	-50 to 200	-46 to 93	1.89	9.25

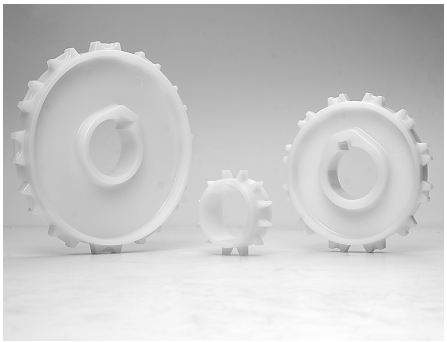
SERIES 2100

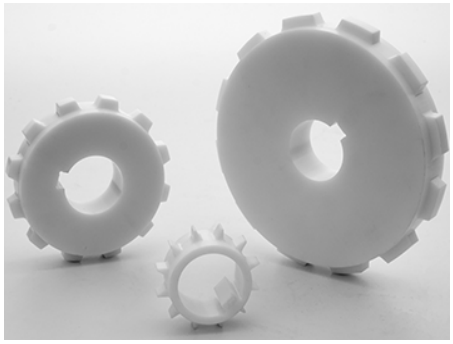
Sprocket and Support Quantity Reference				
Belt Width Range[ab]		Minimum Number of Sprockets per Shaft[c]	Wearstrips	
in	mm		Carryway	Returnway
7.87	200	2	2	2
15.75	400	4	3	2
23.62	600	6	4	2
31.50	800	8	5	3
39.37	1,000	10	6	3

[a] If the actual width is critical, contact Intralox Customer Service.

[b] For other widths, use an even number of sprockets at maximum sprocket spacing: 3.94 in (100 mm). Maximum carryway spacing: 7.87 in (200 mm). Maximum returnway spacing: 15.75 in (400 mm)

[c] Lock all sprockets.

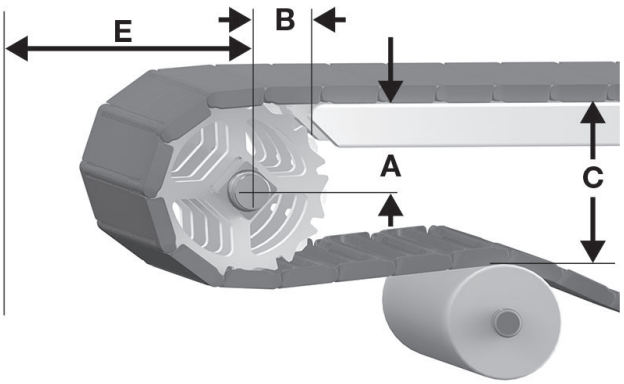
Nylon (FDA) Molded Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	2.3	58	2.4	61	1.0	25	–	–	40	–	
12 (3.41%)	2.6	66	2.7	70	1.0	25	–	–	40	–	
12 (3.41%)	3.0	76	3.1	78	1.0	25	–	–	40	–	
12 (3.41%)	3.3	84	3.4	87	1.0	25	–	–	40	–	
12 (3.41%)	3.7	94	3.8	96	1.0	25	–	–	40	–	
12 (3.41%)	4.0	102	4.1	104	1.0	25	–	–	40	–	
12 (3.41%)	4.4	112	4.5	113	1.0	25	–	–	40	–	
12 (3.41%)	4.7	119	4.8	122	1.0	25	–	–	40	–	
12 (3.41%)	5.1	130	5.1	131	1.0	25	–	–	40	–	
12 (3.41%)	5.4	137	5.5	139	1.0	25	–	–	40	–	
12 (3.41%)	5.8	147	5.8	148	1.0	25	–	–	40	–	
12 (3.41%)	6.2	157	6.2	157	1.0	25	–	–	40	–	
12 (3.41%)	6.5	165	6.5	165	1.0	25	–	–	40	–	
12 (3.41%)	6.9	175	6.9	174	1.0	25	–	–	40	–	

Nylon (FDA) Machined Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
12 (3.41%)	2.3	58	2.4	61	1.0	25	1-7/16	–	–	–	
12 (3.41%)	2.6	66	2.7	70	1.0	25	1-7/16	–	–	–	
12 (3.41%)	3.0	76	3.1	78	1.0	25	1-7/16	–	–	–	
12 (3.41%)	3.3	84	3.4	87	1.0	25	1-7/16	–	–	–	
12 (3.41%)	3.7	94	3.8	96	1.0	25	1-7/16	–	–	–	
12 (3.41%)	4.0	102	4.1	104	1.0	25	1-7/16	–	–	–	
12 (3.41%)	4.4	112	4.5	113	1.0	25	1-7/16	–	–	–	
12 (3.41%)	4.7	119	4.8	122	1.0	25	1-7/16	–	–	–	
12 (3.41%)	5.1	130	5.1	131	1.0	25	1-7/16	–	–	–	
12 (3.41%)	5.4	137	5.5	139	1.0	25	1-7/16	–	–	–	
12 (3.41%)	5.8	147	5.8	148	1.0	25	1-7/16	–	–	–	
12 (3.41%)	6.2	157	6.2	157	1.0	25	1-7/16	–	–	–	
12 (3.41%)	6.5	165	6.5	165	1.0	25	1-7/16	–	–	–	
12 (3.41%)	6.9	175	6.9	174	1.0	25	1-7/16	–	–	–	

[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

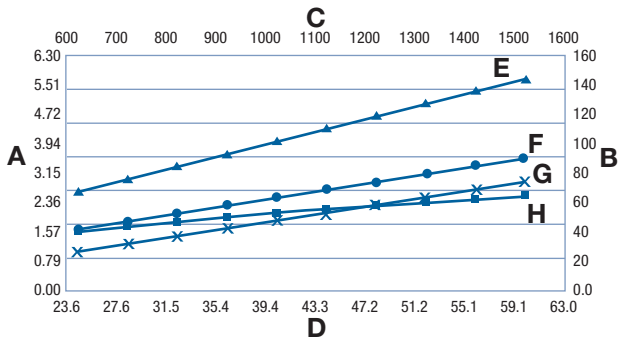
CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 70: A, B, C, and E drive dimensions

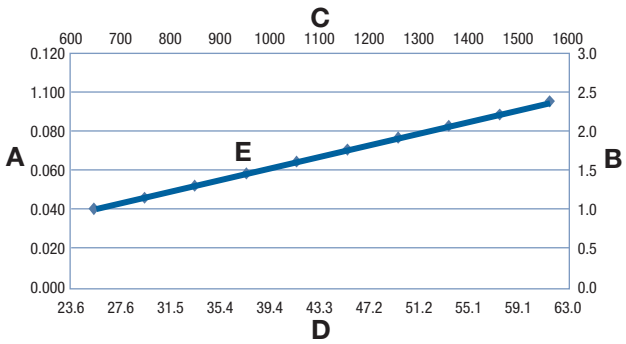


A Dimension, in
B Dimension, mm
C Turn radius (TR), in
D Turn radius (TR), mm
E C drive dimension: 0.089TR-0.01 in (-0.25 mm)
F E drive dimension: 0.045TR +.0.26 in (+6 mm)
G A drive dimension: 0.043TR-0.20 in (-5 mm)
H B drive dimension: 0.022TR +.0.82 in (+20 mm)

Figure 71: Conveyor Frame Dimensions

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.



A Gap, in
B Gap, mm
C Turn radius (TR), mm
D Turn radius (TR), in
E Gap = 0.0015TR

Figure 72: S2100 dead plate gap

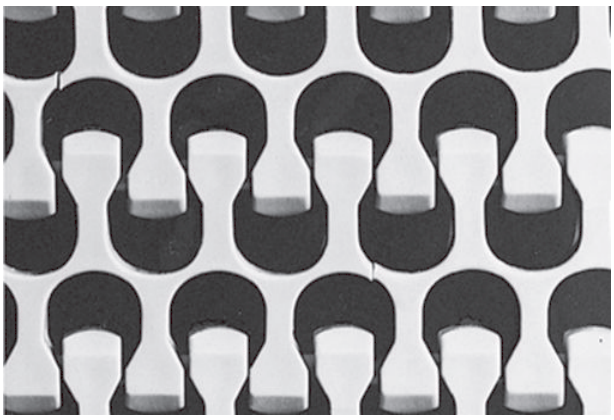
Radius Flush Grid

	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tab edge available.
- Belt openings pass straight through the belt to simplify cleaning.
- Lightweight, strong belt with a smooth surface grid.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Non-sliding drive system reduces belt and sprocket wear, and provides low back tension.
- Designed for radius applications with a minimum turn radius of 2.2 times belt width (measured from inside edge).
- If a standard edge or tabbed edge wearstrip is used to hold the belt in place, do not retain sprockets on the shaft. In this case, the wearstrip maintains the lateral belt position.
- Tab edge belt width measurement does not include tabs. Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside wearstrip.
- Maximum belt width in turns: 36 in (914 mm)





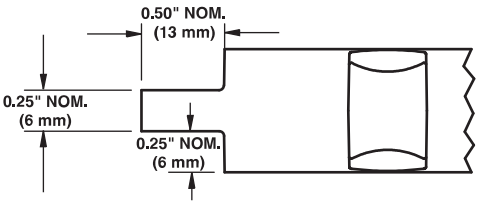
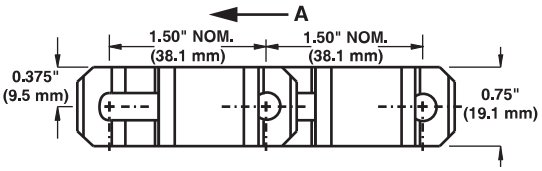


Figure 73: Series 2200 tab edge dimensions



A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1,600	23,400	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.86	9.10
Polyethylene[a]	Acetal	1,000	14,600		-50 to 150	-46 to 66	1.96	9.56
Acetal	Nylon	2,500	36,500		-50 to 200	-46 to 93	2.82	13.80
Polypropylene	Polypropylene[b]	1,400	20,400		34 to 220	1 to 104	1.78	8.69

[a] Polyethylene cannot exceed 150°F (66°C)

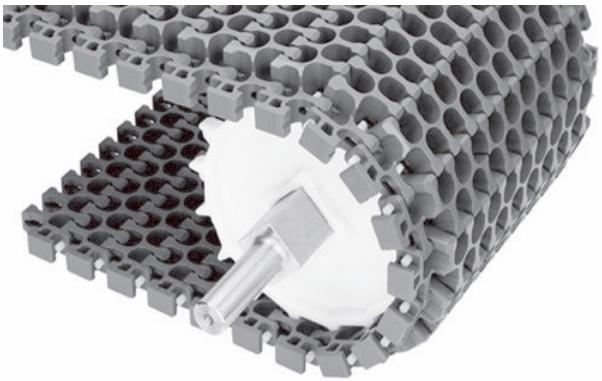
[b] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

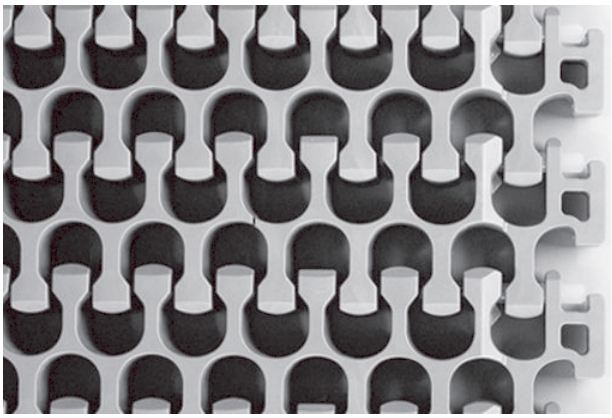
Radius Flush Grid High Deck

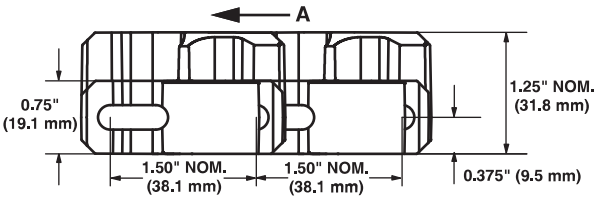
	in	mm
Pitch	1.50	38.1
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Makes turns with an inside radius of 2.2 times the belt width.
- Provides more beam strength than the standard S2200 belt. This feature can reduce retrofit costs in spirals.
- Uses standard S2200 wearstrips.
- If a standard edge or tabbed edge wearstrip is used to hold the belt in place, do not retain sprockets on the shaft. In this case, the wearstrip maintains the lateral belt position.
- 0.5 in (12.7 mm) higher than the standard S2200 belt.
- Standard indent: 1.25 in (31.8 mm).







A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength[a]		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2,500	36,500	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	3.66	17.87
Polypropylene	Acetal	1,600	23,400		34 to 200	1 to 93	2.41	11.77

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

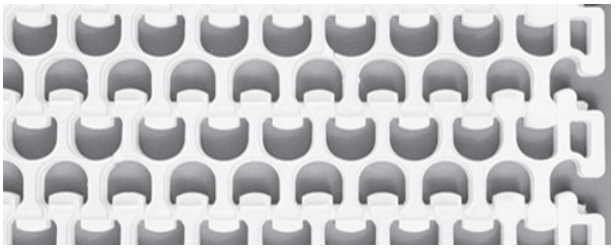
Radius Friction Top

	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tab edge available.
- Belt openings pass straight through the belt to simplify cleaning.
- Available in grey polypropylene with grey rubber, white polypropylene with white rubber, and natural polyethylene, with white rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Non-sliding drive system provides reduced belt and sprocket wear, and low back-tension.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- If a standard edge or tabbed edge wearstrip is used to hold the belt in place, do not retain sprockets on the shaft. In this case, the wearstrip maintains the lateral belt position.
- Tab edge belt width measurement does not include tabs. (Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside the wearstrip.)
- Molded indent: 1.75 in (44 .5 mm).
- Maximum belt width in turns: 36 in (914 mm).





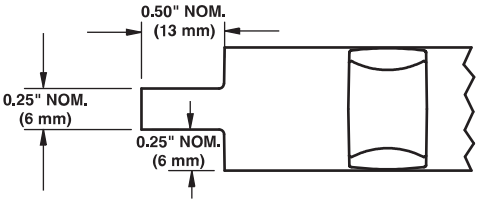
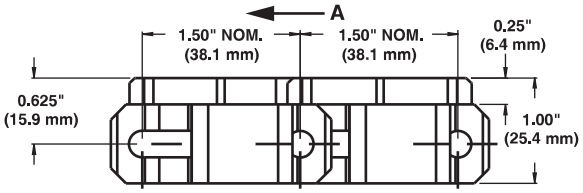


Figure 74: Tab edge dimensions



A preferred run direction for flat, turning applications
Figure 75: Flush edge dimensions

Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/grey	Acetal	1,600	23,400	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	2.20	10.74	64 Shore A		
Polypropylene	White/white	Acetal	1,600	23,400		34 to 150	1 to 66	2.20	10.74	55 Shore A	b	c
Polyethylene	Natural/white	Acetal	1,000	14,600		-50 to 120	-46 to 49	2.30	11.23	55 Shore A	b	c
Polypropylene	Grey/grey	Polypropylene	1,400	20,400		34 to 150	1 to 66	2.12	10.35	64 Shore A		
Polypropylene	White/white	Polypropylene	1,400	20,400		34 to 150	1 to 66	2.12	10.35	55 Shore A	b	c

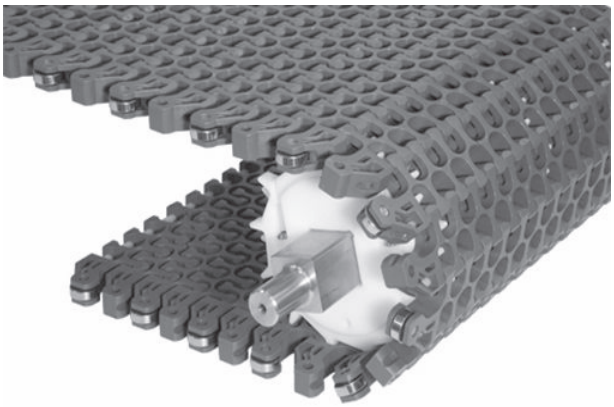
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

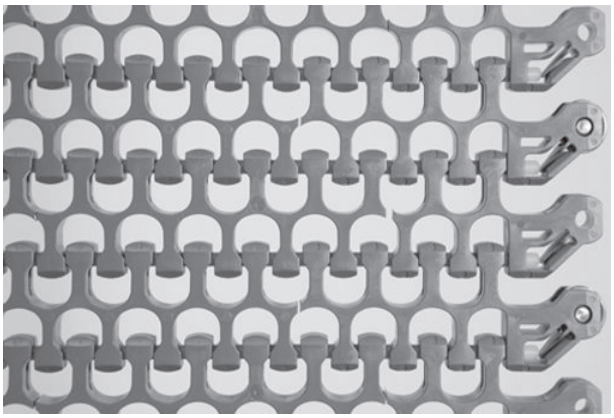
Radius with Edge Bearing

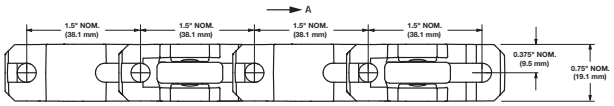
	in	mm
Pitch	1.50	38.1
Minimum Width (Bearings one side)	7	178
Minimum Width (Bearings both sides)	9	229
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 x 0.75	12.7 x 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Both flush edge and tab edge are available for belts with bearings on only one side. Flush edge and tab edge must be placed on the outside edge of the turn.
- Rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Bearings are available on one side for belts that turn in only one direction or on both sides for belts that turn in both directions.
- Bearings must be configured in every other row of the belt.
- Bearings are chrome steel, recommended for dry applications only.
- Bearings are retained with a stainless pin.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Bearings must be placed on the inside edge of the turn.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge of the wearstrip channel).
- Use the *Intralox Engineering Program* to determine if edge bearings are suitable for the intended application.
- Maximum belt speed: 350 fpm (107 mpm).
- The plastic portion of the bearing edge is indented 0.125 in (3.2 mm). Belt width is measured to the end of the bearing.
- Belts with bearings on one side work with standard edge, hold down wearstrips with a 0.50 in (12.7 mm) deep channel.
- Belts with bearings on both sides require the wearstrip on the outside of the turns to have at least a 0.75 in (19.1 mm) deep channel.
- Maximum belt width: 36 in (914 mm).







A preferred run direction for flat, turning applications

Belt Data

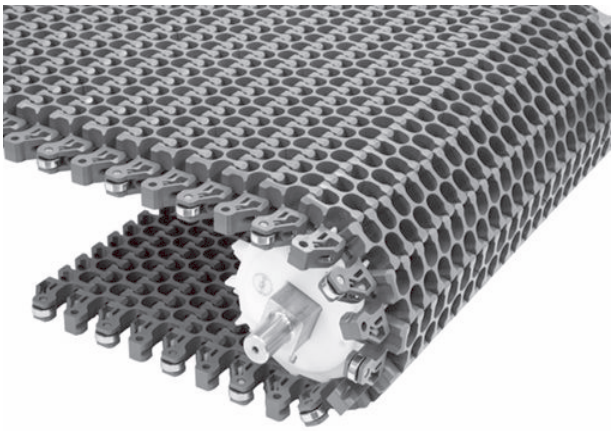
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2,000	29,200	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.82	13.80

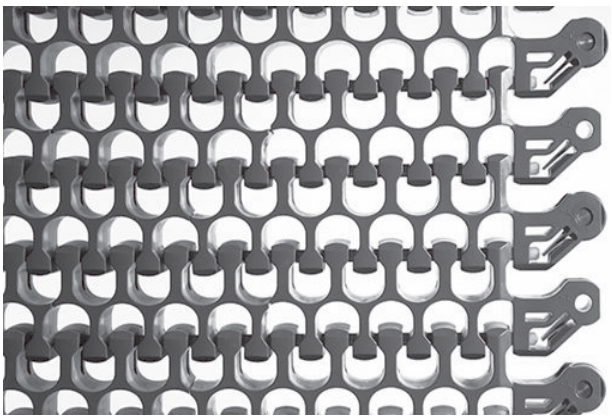
Flush Grid High Deck with Edge Bearing

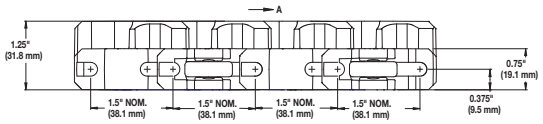
	in	mm
Pitch	1.50	38.1
Minimum Width (bearings one side)	7.0	177.8
Minimum Width (bearings both sides)	9.0	228.6
Width Increments	1.0	25.4
Opening Size (approximate)	0.50 x 0.75	12.7 x 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention provides easier rod insertion and removal.
- Bearings are chrome steel, and are retained in the belt using a stainless pin.
- Bearings are placed in every other row of the belt, on the inside edge of the turn.
- Edge bearings are only available for turning belts. Bearings are available on one side for belts that turn in only one direction or on both sides for belts that turn in both directions.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Edge bearings are only recommended for dry applications.
- Use the *Intralox Engineering Program* to determine if edge bearings are suitable for the intended application.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width, measured from the inside edge of the wearstrip channel.
- 0.5 in (12.7 mm) higher than the standard S2200 belt.
- Standard indent: 1.75 in (44.5 mm).
- The plastic portion of the bearing edge is indented 0.125 in (3.2 mm). Belt width is measured to the end of the bearing.
- Belts with bearings on one side work with standard edge, hold down wearstrips with a 0.50 in (12.7 mm) deep channel.
- Belts with bearings on both sides require the wearstrip on the outside of the turns to have at least a 0.75 in (19.1 mm) deep channel.
- Maximum belt width: 36 in (914 mm).
- Maximum belt speed: 350 fpm (107 meters per minute).







A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2,000	29,200	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	3.66	17.87

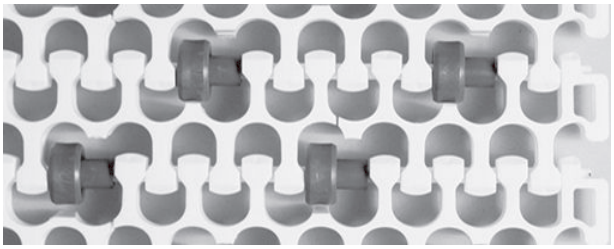
Radius Flush Grid (2.6) with Insert Rollers

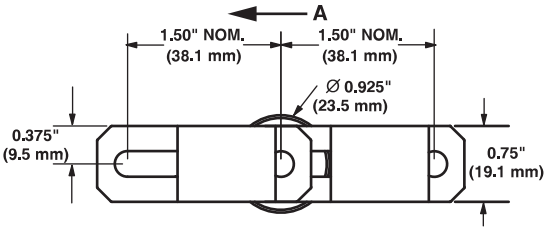
	in	mm
Pitch	1.50	38.1
Minimum Width	7	178
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tabbed edge available.
- Uses acetal rollers.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For applications where low back-pressure accumulation is required. Product accumulation load is 5% to 10% of product weight.
- For low back-pressure applications, place wearstrips between rollers. For driven applications, place wearstrips directly under rollers.
- If a standard edge or tabbed edge wearstrip is used to hold the belt in place, do not retain sprockets on the shaft. In this case, the wearstrip maintains the lateral belt position.
- Tab edge belt width does not include tabs. (Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt.)
- Belts 16 in (406 mm) wide and less have a turn radius of 2.2 times the belt width. Wider belts have a turn radius of 2.6 times the belt width.
- For belts wider than 24 in (610 mm), contact Intralox Customer Service.
- Do not place sprockets inline with rollers.
- Minimum roller indent: 2.5 in (63.5 mm).
- Standard roller spacing:
  - across width: staggered 4 in (102 mm) or inline 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm).
  - along length: staggered 1.5 in (38.1 mm) or inline 3 in (76.2 mm).
  - Custom roller placement is available.







A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength – Roller Width Spacing 2 in lbf/ft	51 mm N/m	3 in lbf/ft	7.6 mm N/m	4 in lbf/ft	102 mm N/m	Roller Indents in	mm	Curved Belt Strength	Temp. Range (continuous) °F	°C	Belt Mass lb/ft²	kg/m²
Polypropylene	Acetal	400	5,840	710	10,400	900	13,100	2.5, 3.5 to 4.5	64, 89 to 114	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.86	9.08
Acetal	Nylon	630	9,190	1,110	16,200	1,410	20,600	2.5, 3.5 to 4.5	64, 89 to 114		-50 to 200	-46 to 93	2.82	13.8
Polypropylene	Polypropylene[a]	350	5,110	620	9,050	790	11,500	2.5, 3.5 to 4.5	64, 89 to 114		34 to 220	1 to 104	1.78	8.69

[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

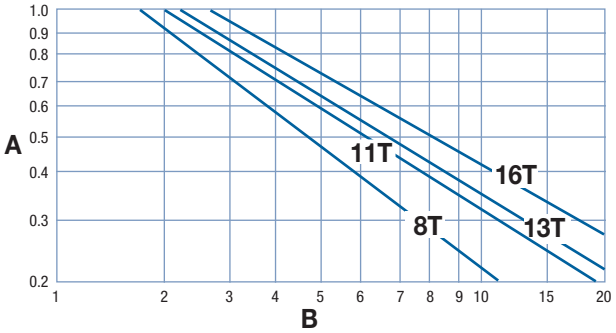
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips[c]	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	3	3	2
12	305	3	3	2
14	356	5	3	3
15	381	5	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	7	4	3
30	762	9	5	4
32	813	9	5	4
36	914	9	5	4
42	1,067	11	6	5
48	1,219	13	7	5
54	1,372	15	7	6
60	1,524	15	*8*	6
72	1,829	19	9	7
84	2,134	21	11	8
96	2,438	25	12	9
120	3,048	31	15	11
144	3,658	37	17	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service. Intralox does not recommend turning belts wider than 36 in (914 mm). For turning applications that require wider belts, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets (Place sprockets every inch for heavily loaded applications). For lockdown location, see Retainer Rings and Center Sprocket Offset.

[c] The number of wearstrips given does not include the hold down wearstrip.

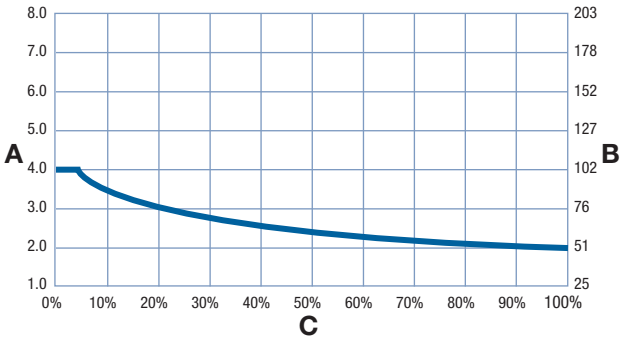
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

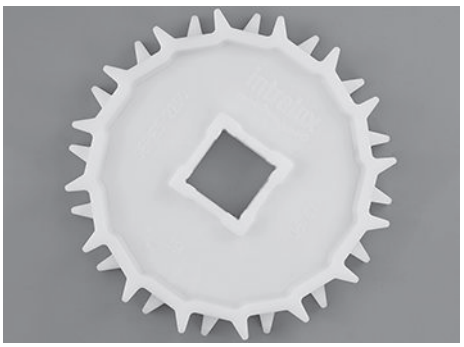
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	3.9	99	4.0	102	1.0	25		1.5		40
13 (2.91%)	6.3	160	6.4	163	1.0	25		2.5		60
16 (1.92%)	7.7	196	7.8	198	1.0	25		1.5, 2.5		40, 60



EZ Clean™ Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
11 (4.05%)	5.3	135	5.4	137	1.0	25		1.5		40	
13 (2.91%)	6.3	160	6.4	163	1.0	25		1.5		40	

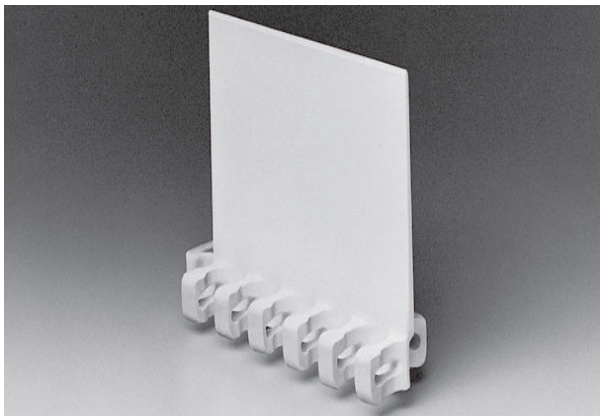
[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

Acetal Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.91%)	6.3	160	6.4	163	1.5	38	1.5	1.5			

Glass-Filled Nylon Split Sprocket[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.91%)	6.3	160	6.4	163	1.5	38	1-7/16				

[a] Contact Intralox Customer Service for preferred method of locking down sprockets and for proper sprocket timing.

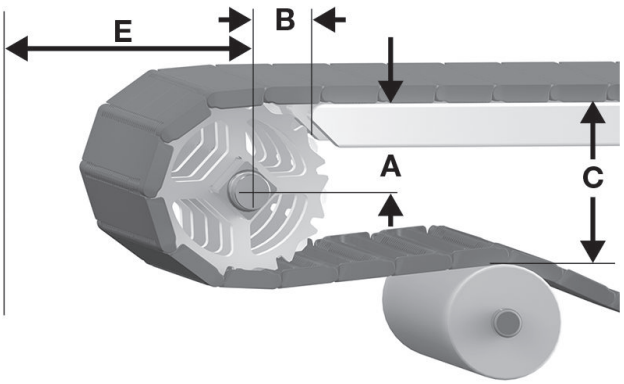
SERIES 2200

Streamline Flights			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, polyethylene, acetal	

- Streamline flights are smooth on both sides.
- Each flight extends from the center of the module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Flights are available in linear increments of 1.5 in (38 mm).
- Standard indent: 0.625 in (15.9 mm).

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 76: A, B, C, and E drive dimensions

S2200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Radius Flush Grid, Radius with Edge Bearing										
3.9	99	8	1.44	37	1.93	49	3.92	100	2.40	61
5.3	135	11	2.18	55	2.27	58	5.32	135	3.10	79
6.3	160	13	2.67	68	2.52	64	6.27	159	3.57	91
7.7	196	16	3.40	86	2.78	71	7.69	195	4.28	109

S2200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Radius Friction Top										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.17	106	2.65	67
5.3	135	11	2.18-2.29	55-58	2.27	58	5.57	142	3.35	85
6.3	160	13	2.67-2.76	68-70	2.52	64	6.52	166	3.82	97
7.7	196	16	3.40-3.47	86-88	2.78	71	7.94	202	4.53	115
Radius Flush Grid with Insert Rollers										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.00	102	2.48	63
5.3	135	11	2.18-2.29	55-58	2.27	58	5.42	138	3.19	81
6.3	160	13	2.67-2.76	68-70	2.52	64	6.36	162	3.66	93
7.7	196	16	3.40-3.47	86-88	2.78	71	7.78	198	4.37	111
Radius Flush Grid High Deck, Flush Grid High Deck with Edge Bearing										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.42	112	2.90	74
5.3	135	11	2.18-2.29	55-58	2.27	58	5.82	148	3.60	91
6.3	160	13	2.67-2.76	68-70	2.52	64	6.77	172	4.07	103
7.7	196	16	3.40-3.47	86-88	2.78	71	8.19	208	4.78	121

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2200 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.9	99	8	0.150	3.8
5.3	135	11	0.108	2.8
6.3	160	13	0.091	2.3
7.7	196	16	0.074	1.9

HOLD DOWN WEARSTRIPS

S2200 is available with and without an edge tab. A hold down wearstrip style is available for each edge style. The tab edge design allows the belt to be held down without the wearstrip interfering with the carryway surface.

- For information about Intralox hold down wearstrips, see Custom Wearstrips.
- For information about conveyor design for hold down wearstrips, see Hold Down Wearstrips in the Design Guidelines chapter.

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

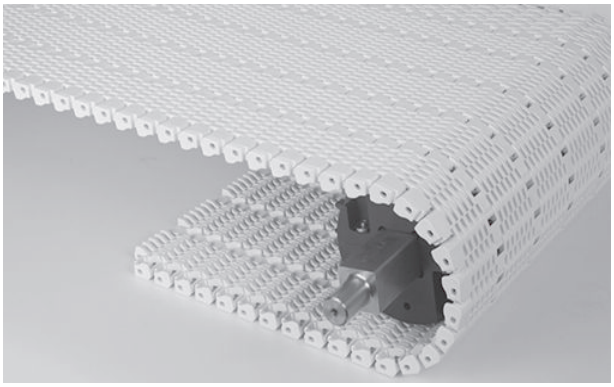
- Contact Intralox Customer Service for inside turn radius guidelines.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths (down to 1.5 × belt width) require a gravity take-up to avoid sprocket wear and tracking problems. See Take-Ups.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller can be used in place of sprockets.

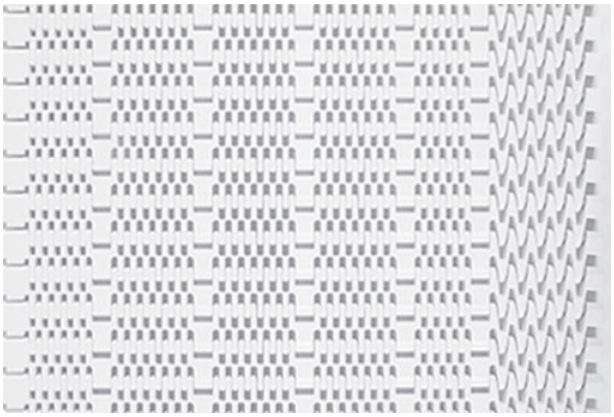
Flush Grid Nose-Roller Tight Turning

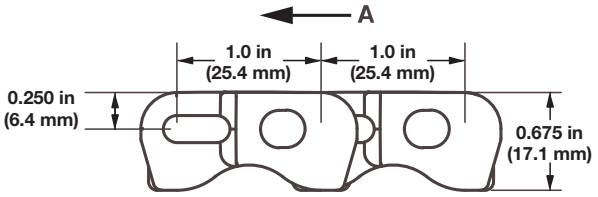
	in	mm
Pitch	1.0	25.4
Minimum Width	12.0	305
Maximum Width	30.0	762
Width Increments	3.0	76.2
Maximum Opening Size (Sphere)	0.245	6.2
Open Area (fully extended)	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface provides free product movement.
- Smaller opening size enhances belt safety.
- Underside design allows the belt to run smoothly around a 0.75 in (19.1 mm) nosebar.
- Available with tight turning modules built on one side.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprockets have large lug teeth that enhance sprocket life.
- Designed for sideflexing applications with a minimum turn radius of 1.7 times belt width (measured from inside edge).
- Can make 180-degree turns.
- Belts can turn either clockwise or counterclockwise. Turning direction must be specified at order. Not available for S-turn applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Minimizes floor space requirements.
- Minimal back tension required for sprocket engagement.
- Turn radius for belts 12.0 in to 27.0 in (305 mm to 685.8 mm): 1.7 times belt width.
- Turn radius for belts 30.0 in (762 mm): 1.75 times belt width.
- Sprocket placement: every 3.00 in (76.2 mm) from outer edge, except drive pocket nearest inner edge. Drive pocket nearest inner edge is 3.75 in (95.3 mm) from inner edge.







A preferred run direction for flat, turning applications

Belt Data

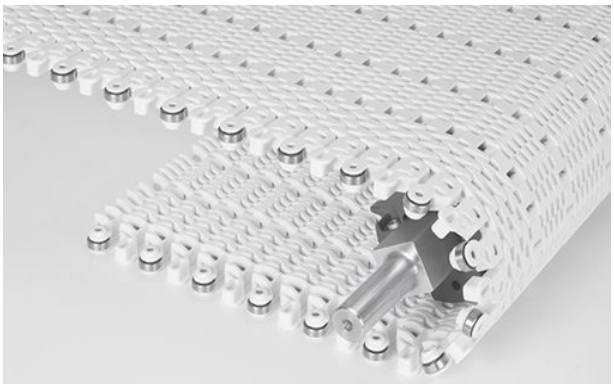
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	13,100	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.40	11.72

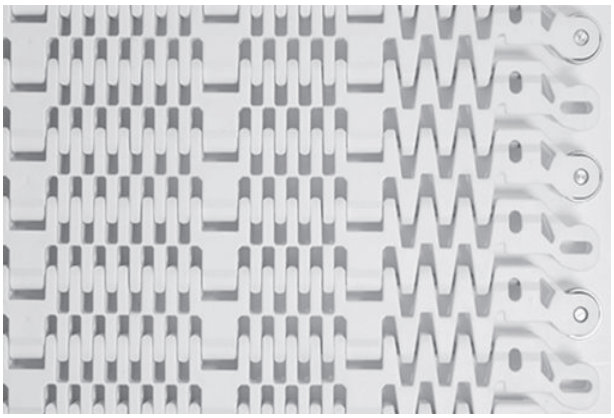
Flush Grid Nose-Roller Tight Turning with Edge Bearing

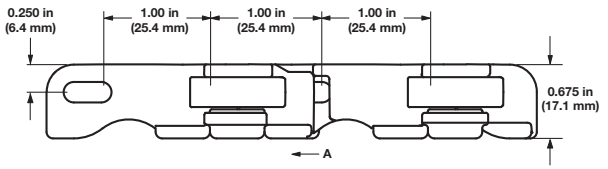
	in	mm
Pitch	1.00	25.4
Minimum Width	12.0	305
Maximum Width	30.0	762
Width Increments	3.0	76.2
Maximum Opening Size (sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smaller opening size enhances belt safety.
- Edge bearings are stainless steel and are retained by stainless steel pins.
- Edge bearings are available on one side of the belt. Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1-mm) nosebar.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for sideflexing applications with a minimum turn radius of 1.7 times belt width (measured from inside edge).
- Belts can turn either clockwise or counterclockwise. Turn direction must be specified when ordering. Not available for S-turn applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Use the *Intralox Engineering Program* to determine if edge bearings are suitable for each application.
- Turn radius for belts 12.0 in–27.0 in (305 mm–685.8 mm): 1.7 times belt width.
- Turn radius for belts 30.0 in (762 mm): 1.75 times belt width.







A preferred run direction for flat, turning applications

Belt Data

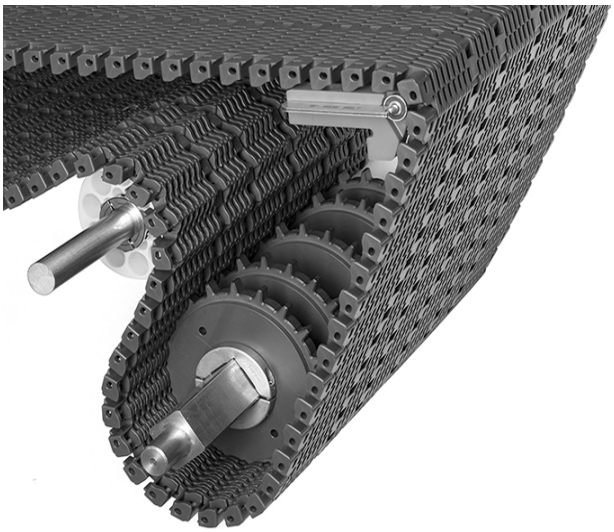
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	13,100	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-17.8 to 93	2.40	11.72

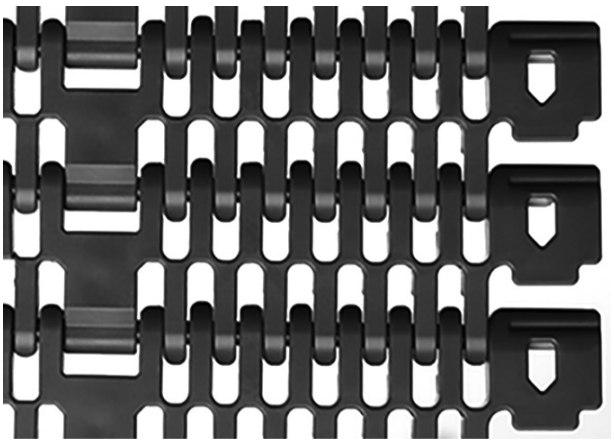
Flush Grid Nose-Roller Dual Turning

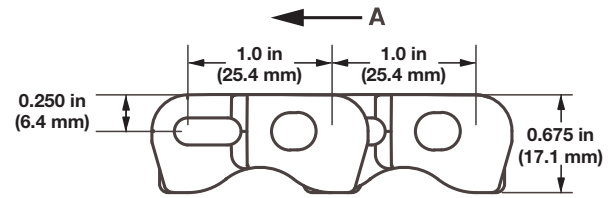
	in	mm
Pitch	1.0	25.4
Minimum Width	12	305
Maximum Width	36	914
Width Increments	3	76.2
Opening Size (Sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Use the *Intralox Engineering Program* to determine the strength requirement of most radius applications and ensure the belt is strong enough for the application.
- Minimizes floor space requirements.
- Can be used in S-turn applications.
- Unheaded rods simplify maintenance.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1 mm) nosebar.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for sideflexing applications with a minimum turn radius of 2.2 times belt width (measured from inside edge) for widths up to 27 in (685 mm). For widths 30 in (762 mm) to 36 in (914 mm), use 2.3 times belt width for minimum turn radius.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Sprockets have large lug teeth that enhance sprocket life.
- Sprocket placement: every 3.00 in (76.2 mm) from outer edge, except drive pocket nearest flush edge. Drive pocket nearest flush edge is 3.75 in (95.3 mm) from belt edge.







A preferred run direction for flat, turning applications

Belt Data

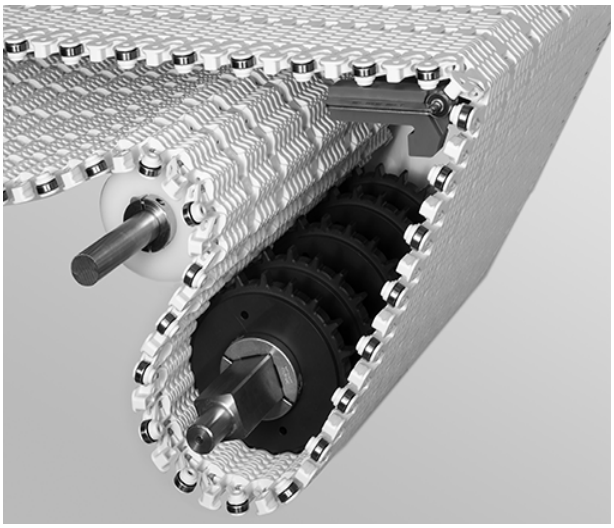
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	13,100	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.40	11.72

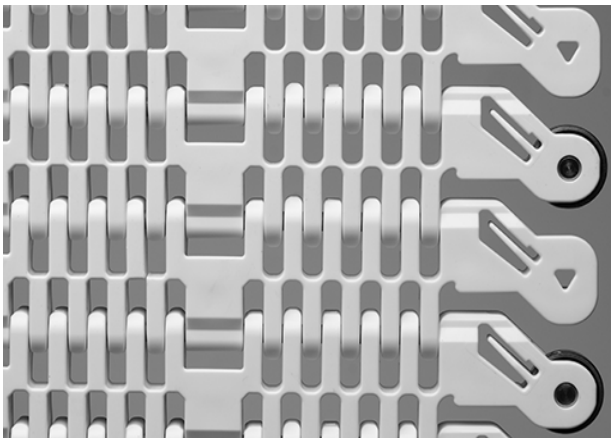
Flush Grid Nose-Roller Dual Turning with Edge Bearing

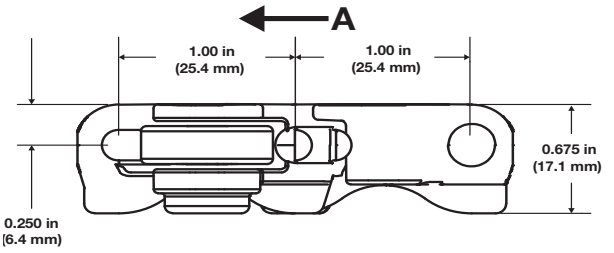
	in	mm
Pitch	1.00	25.4
Minimum Width	12	305
Maximum Width	36	914
Width Increments	3.0	76.2
Maximum Opening Size (sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Edge bearings are stainless steel and are retained by stainless steel pins.
- Edge bearings are on both sides of the belt and must be configured in every other belt row.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1-mm) nosebar.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for dual-turning applications.
- Designed for sideflexing applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge) for widths up to 27 in (685 mm). For widths 30 in (762 mm) to 36 in (914 mm), use 2.3 times the belt width for the minimum turn radius.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Before finalizing a conveyor design, use CalcLab to calculate the estimated belt pull and ensure the belt is strong enough for the application. To access CalcLab, go to calclab.intralox.com.
- Sprocket placement: every 3.00 in (76.2 mm) from the outer edge, except the drive pocket nearest the flush edge. The drive pocket nearest the flush edge is 3.75 in (95.3 mm) from the belt edge.







A preferred run direction for flat, turning applications

Belt Data

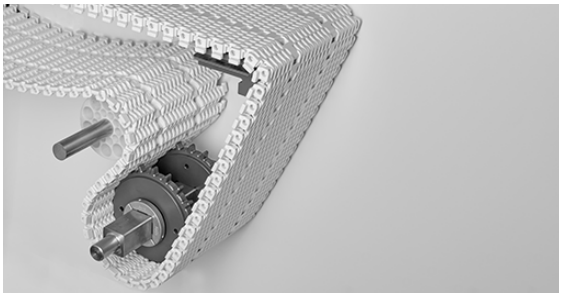
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	13,100	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.40	11.72

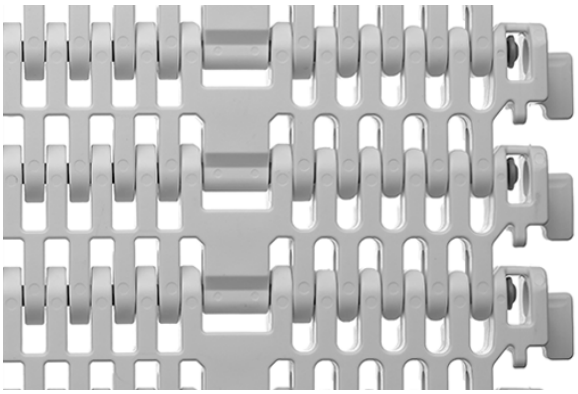
Flush Grid Mold to Width Nose-Roller Dual Turning

	in	mm
Pitch	1.00	25.4
Minimum Width	6.0	152.4
Opening Size (Sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Sprockets have large lug teeth that enhance sprocket life.
- Flush edge or tab edge available.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width (measured from inside edge).
- Use the *Intralox Engineering Program* to determine the strength requirement of most radius applications and ensure the belt is strong enough for the application.
- Intralox recommends using Dynamic Nose-Rollers in tight transfer applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Minimum nose-roller diameter: 0.75 in (19.1 mm).
- Available widths: 6 in (152.4 mm) and 9 in (228.6 mm).
- Required number of sprockets:
  - 6 in (152.4 mm) belts: two sprockets. Avoid split sprockets. These sprockets do not fit on a 6 in (152.4 mm) wide belt.
  - 9 in (228.6 mm) belts: two sprockets. Split sprockets can be used.
- Tab edge belt measurement does not include tabs. Tabs extend approximately 0.3 in (8 mm) x 0.24 in (6 mm) on each side of belt, inside the wearstrip.





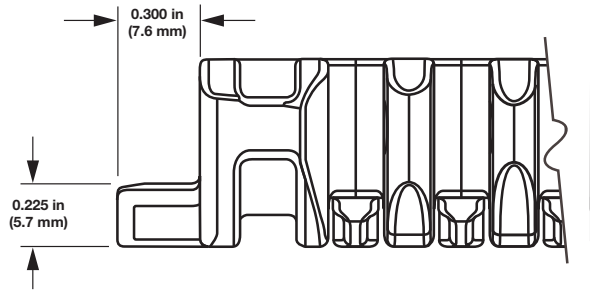


Figure 77: Tab edge dimensions

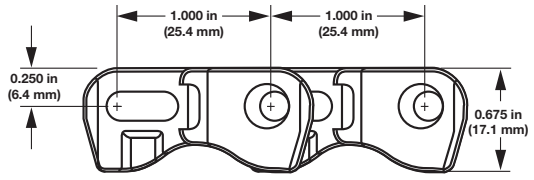


Figure 78: Flush edge dimensions

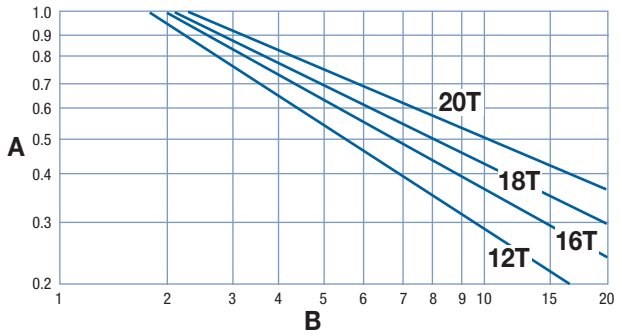
Belt Data

Belt Width			Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength			Temperature Range (continuous)		Belt Mass	
in	mm	Belt Material		lbf	N	Curved Belt Strength	°F	°C	lb/ft	kg/m
6	152.4	Acetal	Nylon	700	3,110	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.20	1.79
9	228.6	Acetal	Nylon	700	3,110		-50 to 200	-46 to 93	1.80	2.68

Sprocket and Support Quantity Reference

NOTE: For sprocket carryway and returnway support wearstrip spacing, contact Intralox Customer Service or see the Series 2300 Design Guidelines.

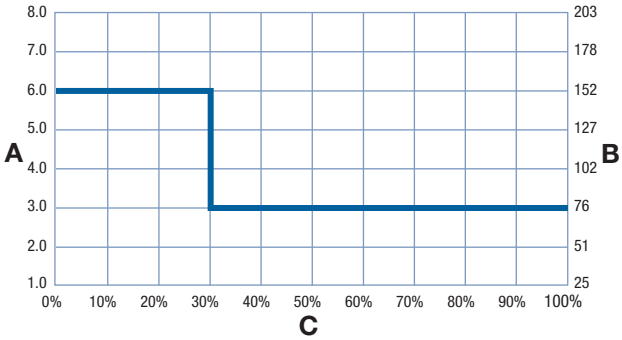
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



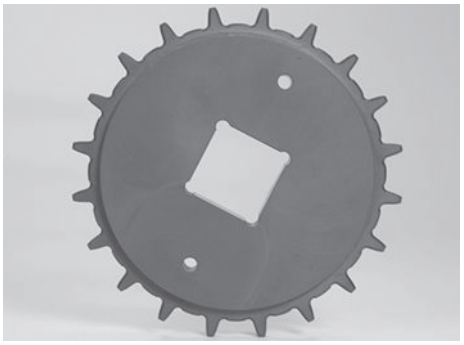
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Nylon Split Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
16 (1.92%)	5.1	130	5.2	132	1.9	48	1.25	1.5	30, 40	40
18 (1.52%)	5.8	147	5.9	150	1.9	48	1.25, 1-7/16	1.5	40	40
20 (1.23%)	6.4	163	6.5	165	1.9	48	1.25, 1-7/16	1.5	40	40

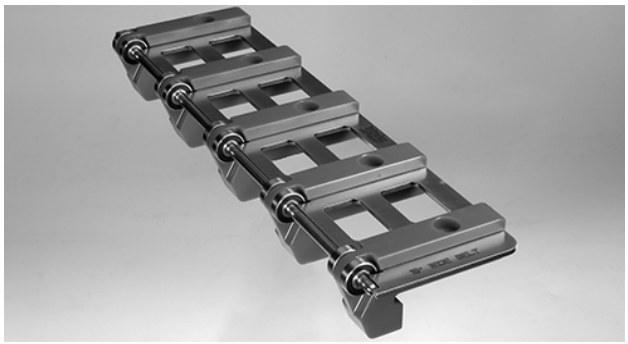


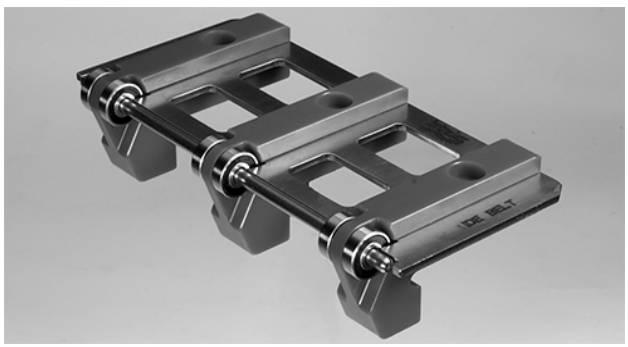
[a] Do not use with Mold to Width Flush Grid Nose-Roller Dual Turning belt.

Nylon Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	3.9	99	3.9	99	1.0	25	1.25	1.5		40	
16 (1.92%)	5.1	130	5.2	132	1.0	25	1.25	1.5	40	40	
18 (1.52%)	5.8	147	5.9	150	1.0	25	1.25	1.5	40	40	
20 (1.23%)	6.4	163	6.5	165	1.0	25	1.25	1.5	40	40	

Dynamic Nose-Rollers	
Standard Nose-Roller Widths	
U.S. Sizes (in)	Metric Sizes (mm)
4.5	170.0
6.0	255.0
9.0	340.0
12.0	425.0
15.0	
18.0	
24.0	

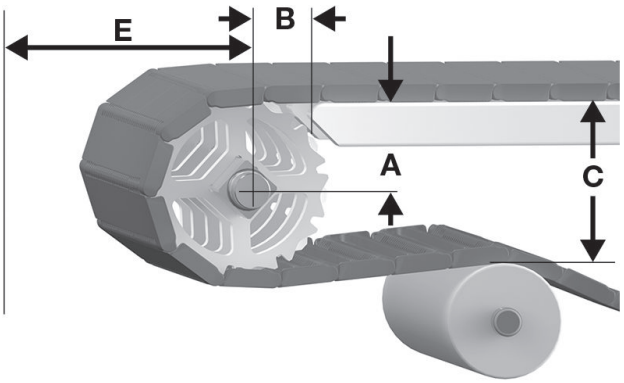
- U.S. sizes are available in 4.5 in, 6 in, and then in 3 in increments. Metric sizes are available in 85 mm (3.35 in) increments.
- For other belt widths, combine multiple nose-rollers in the available increments. For assistance, contact Intralox Customer Service.
- Made of FDA-compliant, blue, oil-filled nylon.
- Roller diameter: 0.75 in (19 mm)





CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 79: A, B, C, and E drive dimensions

S2300 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
3.9	99	12	1.44-1.51	37-38	1.92	49	3.69	94	2.24	57
5.1	130	16	2.09-2.14	53-54	2.27	58	4.95	126	2.88	73
5.8	147	18	2.41-2.45	61-62	2.46	62	5.58	142	3.19	81
6.4	163	20	2.73-2.77	69-70	2.57	65	6.22	158	3.51	89

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2300 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.9	99	12	0.065	1.7
5.1	130	16	0.050	1.3
6.4	163	20	0.039	1.0

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

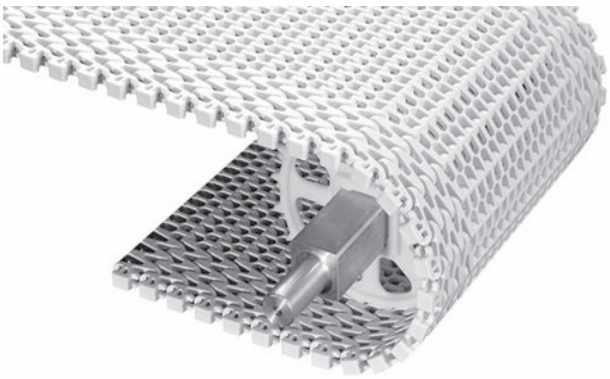
DESIGN GUIDE SUMMARY

For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

- The minimum turn radius for the standard edge S2300 belts is 2.2 times the belt width, measured from the inside edge. For widths 30 in to 36 in (762 mm to 914 mm), use 2.3 times the belt width for minimum turn radius.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths (down to 1.5 × belt width) require a gravity take-up to avoid sprocket wear and tracking problems. See Take-Ups.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller or an Intralox Dynamic Nose-Roller can be used in place of sprockets.

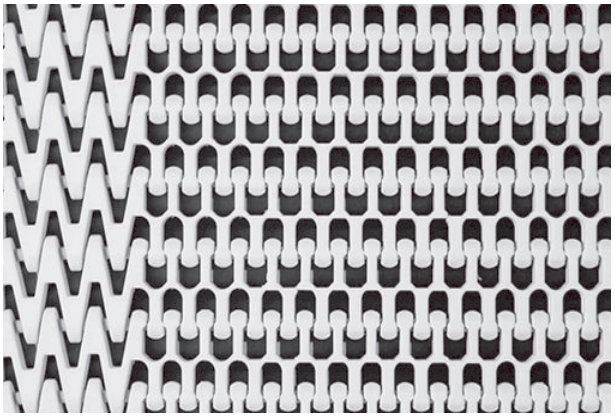
Tight Turning Radius

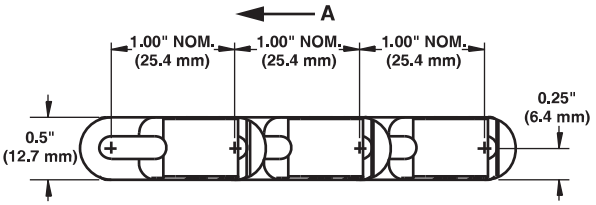
	in	mm
Pitch	1.00	25.4
Minimum Width	7	178
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Available with tight turning modules built into one side or both sides of the belt.
- Available with 1.7 modules on the inside and 2.2 modules on the outside for improved strength.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system is designed to minimize wear and require low return-side tension.
- Designed for radius applications with a turn radius of 1.7 times the belt width (measured from inside edge). Maximizes plant floor space.
- Use the *Intralox Engineering Program* to identify the strength requirements of most radius applications, and ensure that the belt is strong enough for the application.
- Radius belt wearstrips are available.
- Contact Intralox Customer Service before using a belt width greater than 18 in (457 mm) in spiral and flat turning applications.
- Looking in the direction of flat-turning travel, the minimum sprocket indent from the right side belt edge with tight turning modules is 2.625 in (66.7 mm).
- Minimum sprocket indent from the left side belt edge with tight turning modules: 2.875 in (73 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).





A preferred run direction for flat, turning applications

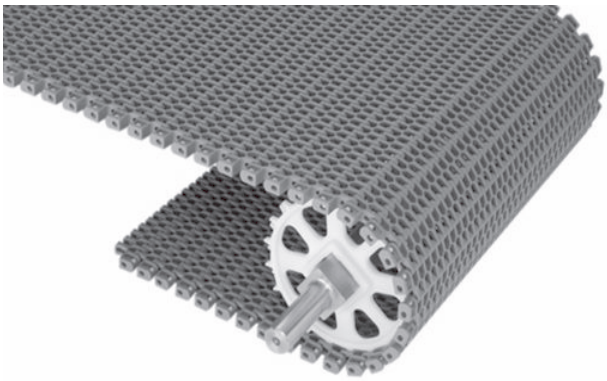
Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength lbf/ft	Straight Belt Strength N/m	Curved Belt Strength	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Mass lb/ft²	Belt Mass kg/m²
Polypropylene	Acetal	600	8,760	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.20	5.86
Acetal	Nylon	600	8,760		-50 to 200	-46 to 93	1.73	8.44
Polypropylene	Polypropylene[a]	600	8,760		34 to 220	1 to 104	1.12	5.47

[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

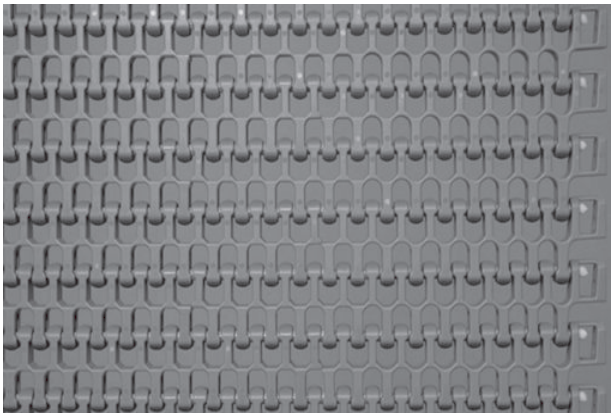
Radius Flush Grid (2.2)

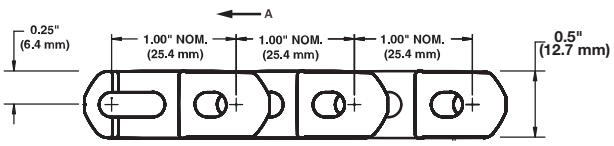
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system is designed to minimize wear and require low return side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width (measured from inside edge).
- Use the *Intralox Engineering Program* to identify strength requirements for radius applications, and ensure that the belt is strong enough for the application.
- Radius belt wearstrips are available.
- Available with hold down guides, see Hold Down Guides (2.2 Only) for details.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





A preferred run direction for flat, turning applications

Belt Data

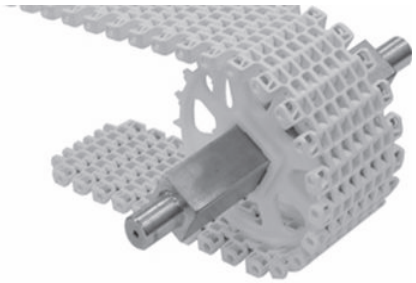
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength lbf/ft	Straight Belt Strength N/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft²	Belt Mass kg/m²
Polypropylene	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.40
Acetal	Nylon	1,700	24,800		-50 to 200	-46 to 93	1.59	7.76
Detectable acetal	HR nylon	1,300	19,000		-50 to 200	-46 to 93	1.70	8.30
Polypropylene	Polypropylene[a]	1,000	14,600		34 to 220	1 to 104	1.04	5.11
X-ray detectable acetal[b]	X-ray detectable acetal	1,700	24,800		-50 to 200	-46 to 93	1.85	9.03
HR nylon	HR nylon	1,700	24,800		-50 to 240	-46 to 116	1.43	6.98
HHR nylon	HHR nylon	1,700	24,800		-50 to 310	-46 to 154	1.43	6.98
PK	PK	1,700	24,800		-40 to 176	-40 to 80	1.40	6.84

[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

[b] Designed specifically for detection by X-ray machines.

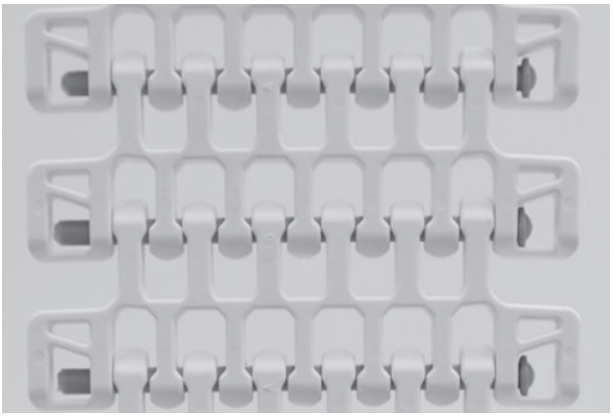
Mold to Width Radius Flush Grid 2.2

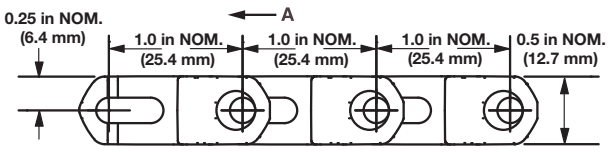
	in	mm
Pitch	1.00	25.4
Molded Width	4	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Use the *Intralox Engineering Program* to identify the strength requirements of most radius applications, and ensure that the belt is strong enough for the application.
- Available with hold down guides, see Hold Down Guides (2.2 Only) for details.
- Hold down guides cannot be used with 2 in and 2.9 in pitch diameter sprockets or 3.9 in pitch diameter square bore sprockets.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





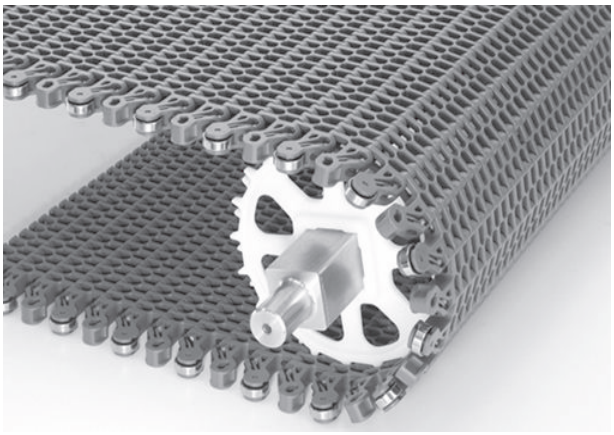
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Mass	
		lbf	N		°F	°C	lb/ft	kg/m
Acetal	Nylon	560	2,490	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	0.56	0.83
Polypropylene	Acetal	400	1,780		34 to 200	1 to 93	0.39	0.57

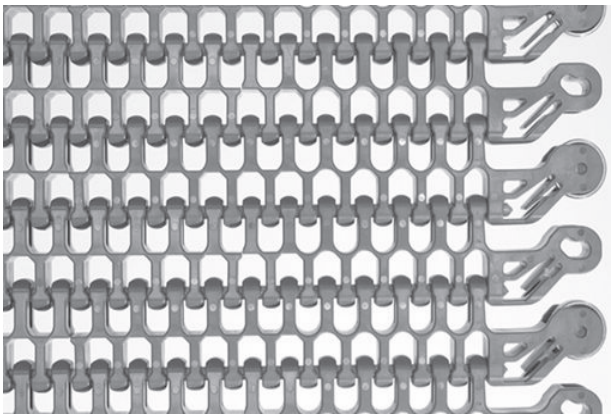
Radius with Edge Bearing

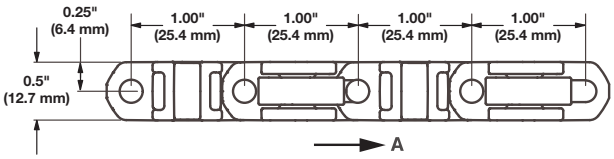
	in	mm
Pitch	1.00	25.4
Minimum Width (Bearings One Side)	7.5	191
Minimum Width (Bearings Both Sides)	9.0	229
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Edge bearings are stainless steel and are retained by a plastic pin.
- Edge bearings are available on one side (for belts that turn in only one direction) or on both sides (for belts that turn in both directions). Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Both flush edge and hold down guide edge are available for belts that have bearings on only one side and must be placed on the outside edge of the turn.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the *Intralox Engineering Program* to determine if the Edge Bearing is suitable for your application.





A preferred run direction for flat, turning applications

Belt Data

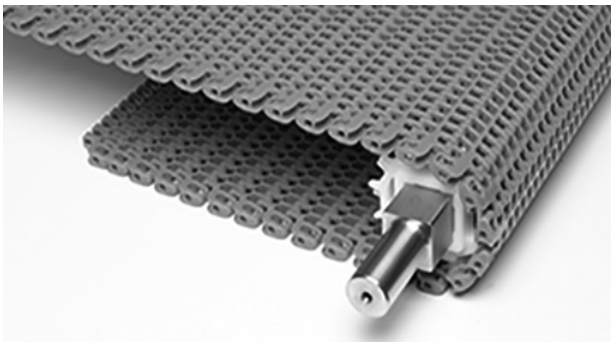
Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1,700	24,800	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-18 to 93	1.59	7.76

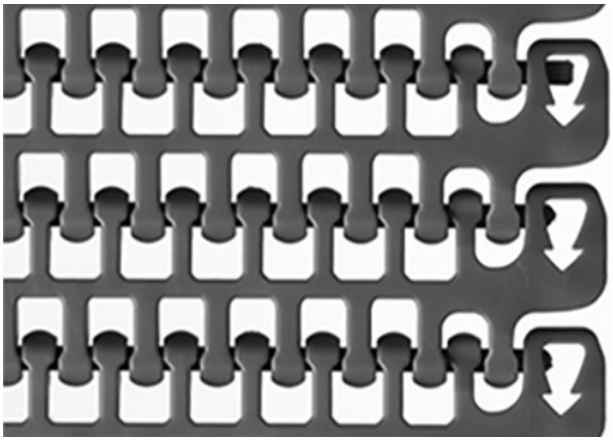
Radius Flush Grid with Heavy-Duty Edge

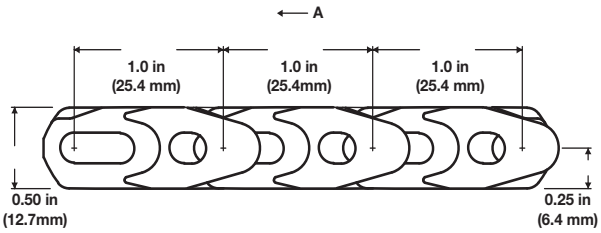
	in	mm
Pitch	1.0	25.4
Minimum Width	4.0	101.6
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Flush edge features an intuitive molded-in arrow to indicate preferred run direction, and extensions to reduce finger entrapment.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for radius applications with a turn radius of 2.2 times the belt width (measured from the inside edge).
- Sprocket drive system minimizes wear and requires low return-side tension.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.375 in (34.9 mm).







A preferred run direction for flat, turning applications

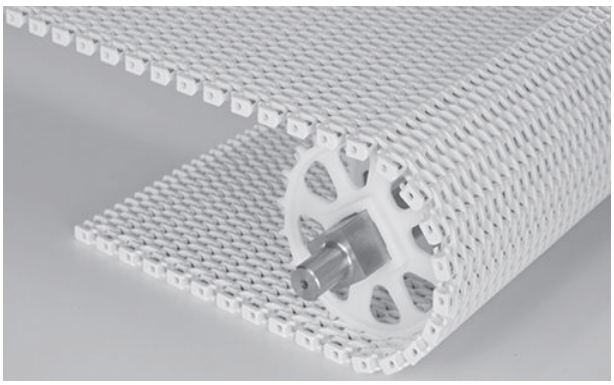
Belt Data

Base Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Polypropylene	PK	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 176	1 to 80	1.10	5.37
Acetal	PK	1,700	24,800		-40 to 176	-40 to 80	1.59	7.7624
PK	PK	1,700	24,800		-40 to 176	-40 to 80	1.4	6.8348

[a] Sideflexing applications must not exceed 180°F (82°C).

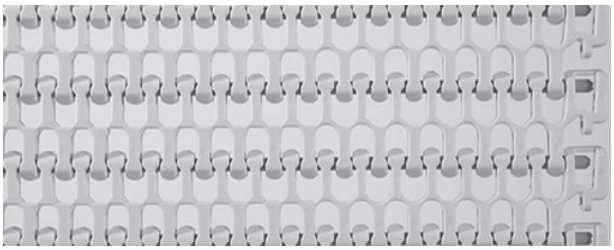
Radius Flush Grid with Load-Sharing™ Edge

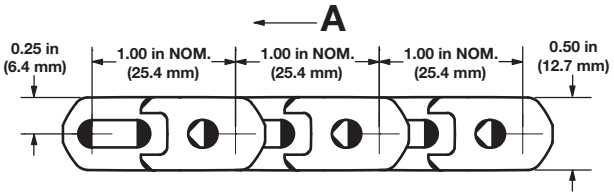
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Use the *Intralox Engineering Program* to predict strength requirements for most radius and low-tension, capstan drive spiral applications, and ensure the belt is strong enough for the application.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.5 in (38 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





A preferred run direction for flat, turning applications

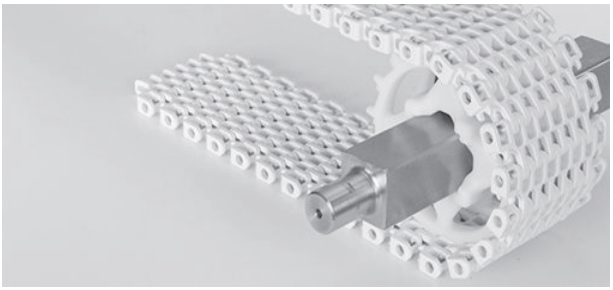
Belt Data

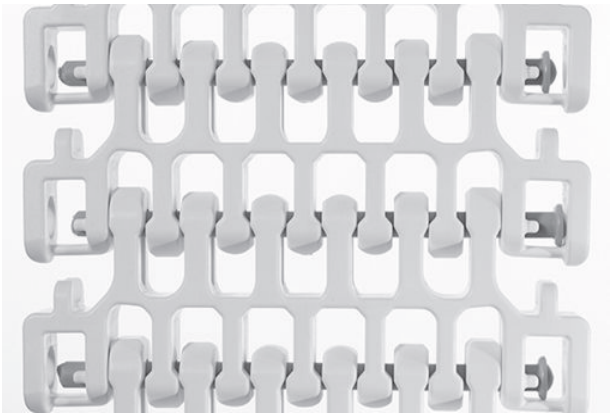
Base Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.37
Acetal	Nylon	1,700	24,800		-50 to 200	-46 to 93	1.59	7.76
Polypropylene	Polypropylene	1,000	14,600		34 to 200	1 to 104	1.04	5.10
X-ray detectable acetal	X-ray detectable acetal	1,700	24,800		-50 to 200	-46 to 93	1.85	9.03

[a] Sideflexing applications must not exceed 180° F (82° C).

Radius Flush Grid MTW with Load-Sharing™ Edge

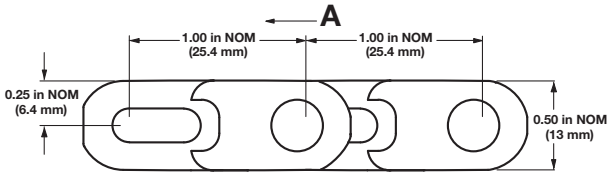
	in	mm
Pitch	1.00	25.4
Minimum Width	4.0	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width.
- Minimum recommended turn ratio is 1.95. Consult Intralox Customer Service when considering minimum turn ratio.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Available widths: 4 in (101.6 mm), 6 in (152.4 mm), 8 in (203.2 mm), and 10 in (254 mm).
- For 4 in (102 mm) wide belts with hold down guides, do not use glass-filled nylon split sprockets.
- Maximum number of sprockets for 4 in (101.6 mm) belts:
  - without hold down guides: two
  - with hold down guides: one
- Maximum number of sprockets for 6 in (152.4 mm) belts: Maximum number of sprockets for 6 in (152.4 mm) belts
-
  - without hold down guides: four.
  - with hold down guides: three.
- Maximum number of sprockets for 8 in (203.2 mm) belts with and without hold down guides: five.
- Maximum number of sprockets for 10 in (254 mm) belts with and without hold down guides: seven.
- Minimum nosebar diameter for belts:
  - without hold down guides: 1.375 in (34.9 mm)
  - with hold down guides: 1.50 in (38.1 mm).



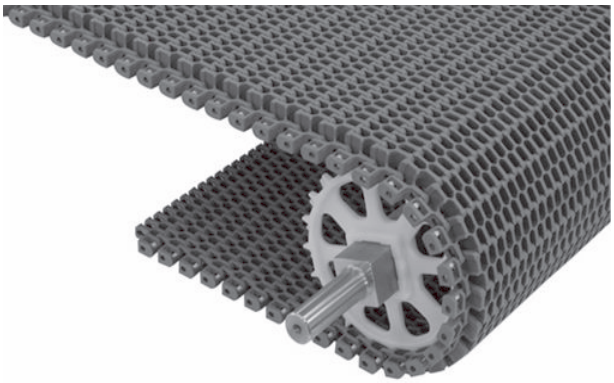
A preferred run direction for flat, turning applications

Belt Data

Base Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Hold Down Guides	Straight Belt Strength lbf (N)				Curved Belt Strength	Temp. Range (continuous)		Belt Mass lb/ft (kg/m)			
			4 in (101.6 mm)	6 in (152.4 mm)	8 in (203.2 mm)	10 in (254 mm)		°F	°C	4 in (101.6)	6 in (152.4)	8 in (203.2)	10 in (254)
Acetal	Nylon	Without	484 (2,150)	850 (3,780)	1,133 (5,040)	1,417 (6,300)	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	0.57 (0.85)	0.89 (1.32)	1.19 (1.77)	1.50 (2.23)
		With	242 (1,080)	726 (3,230)	1,133 (5,040)	1,417 (6,300)		-50 to 200	-46 to 93	0.64 (0.95)	0.96 (1.42)	1.26 (1.88)	1.56 (2.32)
Polypropylene	Nylon	Without	400 (1,780)	600 (2,670)	800 (3,560)	1,000 (4,450)		34 to 220	1 to 104	0.39 (0.58)	0.60 (0.89)	0.82 (1.22)	1.01 (1.50)
		With	242 (1,080)	600 (2,670)	800 (3,560)	1,000 (4,450)		34 to 220	1 to 104	0.43 (0.64)	0.65 (0.978)	0.86 (1.28)	1.06 (1.58)

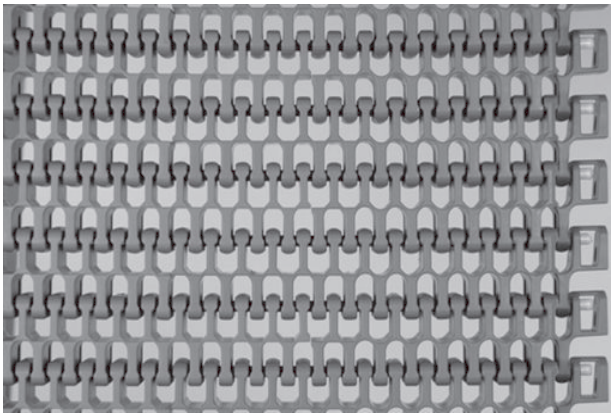
Radius Flush Grid High Deck

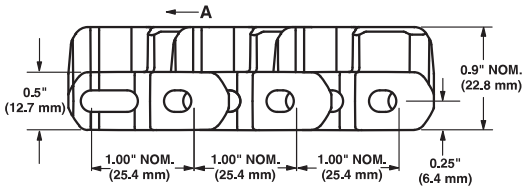
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush Grid High Deck is 0.4 in (10 mm) higher than the standard S2400 belt.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Makes turns with an inside radius of 2.2 times the belt width.
- Works with standard S2400 wearstrips.
- Standard indent: 0.875 in (22.2 mm).





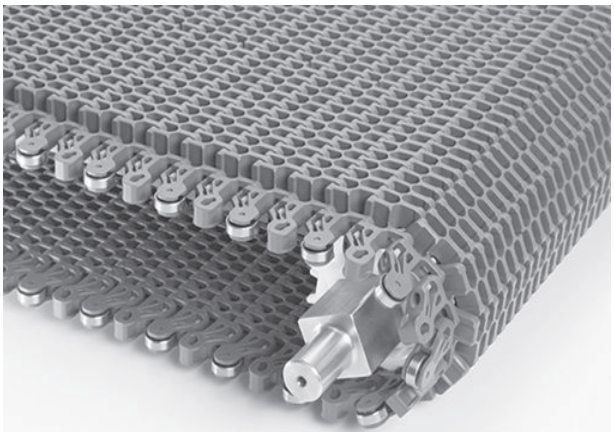
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength lbf/ft	Straight Belt Strength N/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft²	Belt Mass kg/m²
Polypropylene	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
HR nylon	Nylon	1,700	24,800		-50 to 240	-46 to 116	2.30	11.23
Acetal	Acetal	1,700	24,800		-50 to 200	-46 to 93	2.83	13.82
X-ray detectable acetal	X-ray detectable acetal	1,700	24,800		-50 to 200	-46 to 93	3.31	16.16
PK	PK	1,700	24,800		-40 to 176	-40 to 80	2.49	12.16

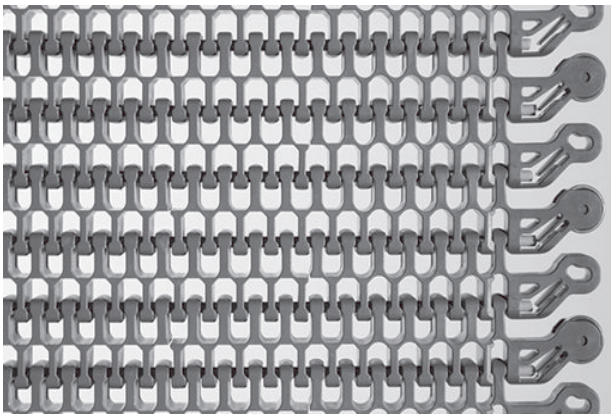
Flush Grid High Deck with Edge Bearing

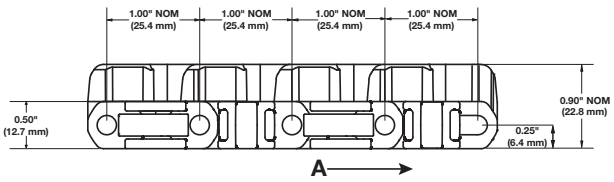
	in	mm
Pitch	1.00	25.4
Minimum Width (Bearings One Side)	7.5	191
Minimum Width (Bearings Both Sides)	9.0	229
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Edge bearings are available on one side (for belts that turn in only one direction) or on both sides (for belts that turn in both directions). Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Edge bearings are stainless steel and are retained by plastic pins.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the *Intralox Engineering Program* to determine if the Edge Bearing is suitable for your application.
- Belt height: 0.4 in (10 mm) higher than standard S2400 belt.
- Standard indent: 1.88 in (47.75 mm).





A preferred run direction for flat, turning applications

Belt Data

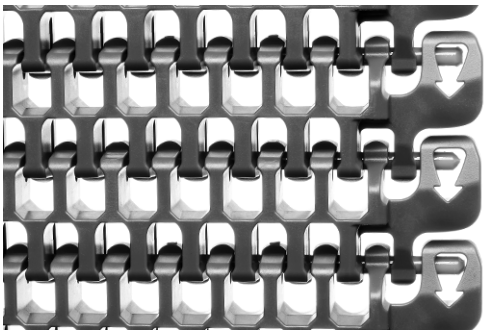
Base Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1,700	24,800	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-18 to 93	2.83	13.82

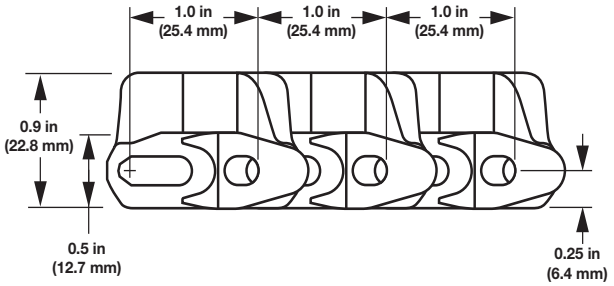
[a] Sideflexing applications must not exceed 180°F (82°C).

Radius Flush Grid High Deck with Heavy-Duty Edge

	in	mm
Pitch	1.00	25.4
Minimum Width	4	101.6
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

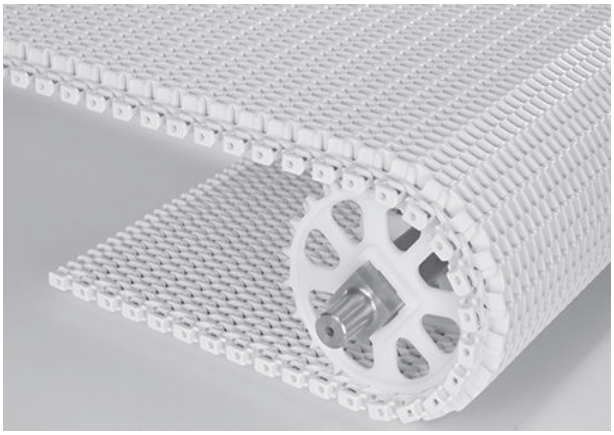
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Flush edge features an intuitive molded-in arrow to indicate preferred run direction, and extensions to reduce finger entrapment.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Belt openings pass straight through the belt to simplify cleaning.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Makes turns with an inside radius of 2.2 times the belt width.
- Radius belt wearstrips are available.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Flush Grid High Deck is 0.4 in (10 mm) higher than the standard S2400 belt.
- Standard indent: 0.875 in (22.2 mm)
- Minimum nosebar diameter: 1.375 in (34.9 mm).

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Polypropylene	PK	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 176	1 to 80	1.90	9.28
Acetal	PK	1,700	24,800		-40 to 176	-40 to 80	2.83	13.82
PK	PK	1,700	24,800		-40 to 176	-40 to 80	2.49	12.16

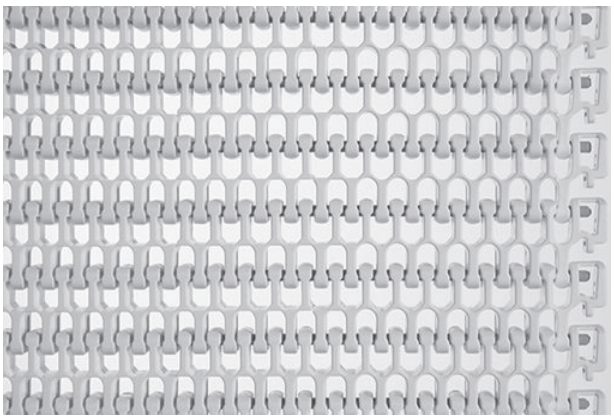
Flush Grid High Deck with Load-Sharing™ Edge

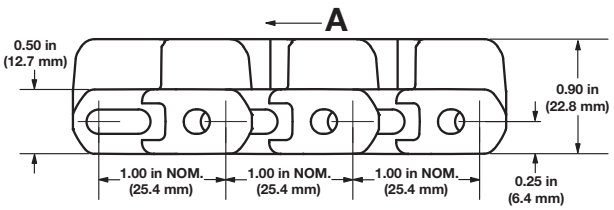
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the *Intralox Engineering Program* to predict strength requirements for most radius and low-tension, capstan drive spiral applications, and ensure the belt is strong enough for the application.
- Uses a standard S2400 wearstrip.
- Standard indent: 0.875 in (22.2 mm).
- Load-Sharing Edge height: 0.4 in (10 mm) higher than the standard S2400 belt.





A preferred run direction for flat, turning applications

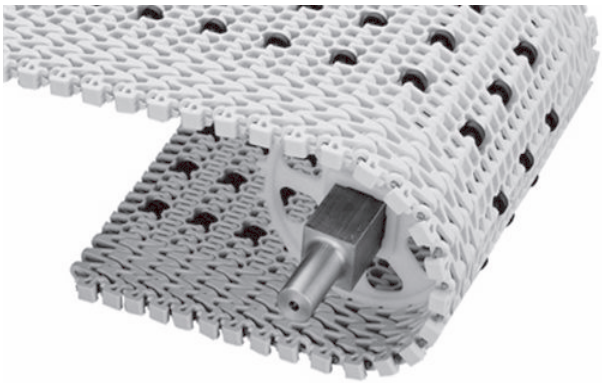
Belt Data

Base Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
Acetal	Nylon	1,700	24,800		-50 to 200	-46 to 93	2.83	13.82
Polypropylene	Polypropylene	1,000	14,600		34 to 200	1 to 104	1.84	8.99

[a] Sideflexing applications must not exceed 180ºF (82ºC).

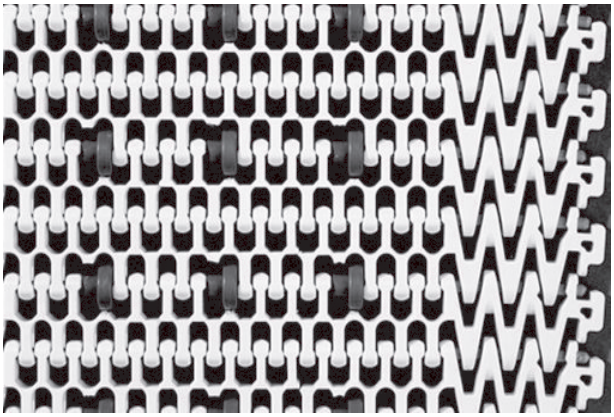
Radius Flush Grid (2.4) with Insert Rollers

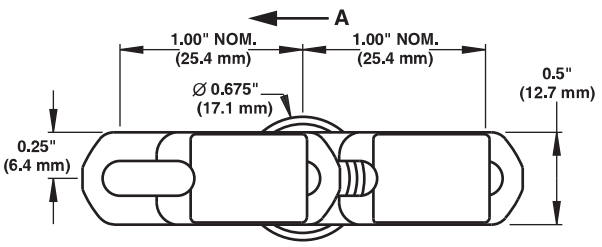
	in	mm
Pitch	1.00	25.4
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- For radius applications requiring low back pressure accumulation with minimum radius of 2.4 times belt width (measured from inside edge).
- For low back pressure applications, place wearstrip between rollers. For driven applications, place wearstrip directly under rollers.
- Do NOT place sprockets in line with rollers.
- Belts 12 in (305 mm) wide and less have a turn ratio of 1.7.
- Contact Intralox Customer Service before using a belt width greater than 24 in (610 mm) in a flat turning or spiral applications.
- Standard roller width spacings: 2 in (51 mm), 3 in (76 mm) or 4 in (102 mm).
- Standard roller row spacings: 2 in (51 mm) or 4 in (102 mm).
- Roller indents: 3.5 in (89 mm) or 4 in (102 mm) based on roller width spacing selected.





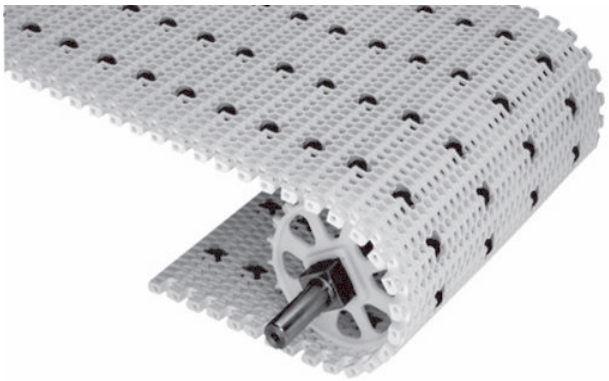
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Roller Indents		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	in	mm		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	500	7,300	3.5 or 4.0	89 or 102	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.20	5.86
Acetal	Nylon	500	7,300	3.5 or 4.0	89 or 102		-50 to 200	-46 to 93	1.73	8.44
Polypropylene	Polypropylene	500	7,300	3.5 or 4.0	89 or 102		34 to 220	1 to 104	1.12	5.47

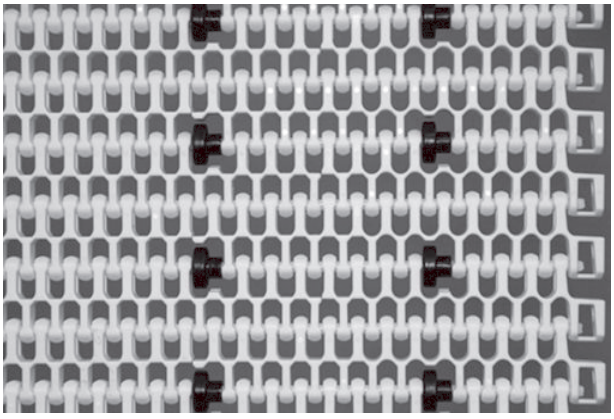
Radius Flush Grid (2.8) with Insert Rollers

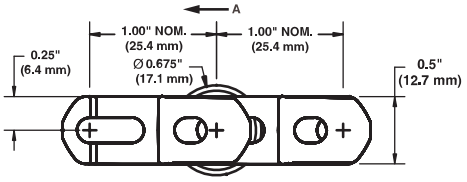
	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- This belt uses the Series 2400 Radius Flush Grid (2.2) as a base. Due to roller placement, turn radius increases to 2.8.
- For low back-pressure applications, place wearstrips between rollers. For driven applications, place wearstrips under rollers.
- Do not place sprockets in-line with rollers.
- For radius applications requiring low back-pressure accumulation with a minimum radius of 2.8 times belt width (measured from inside edge).
- Contact Intralox Customer Service before using a belt width greater than 24 in (610 mm) in flat-turning or spiral applications.
- Standard roller row spacing: 2 in (51 mm) or 4 in (102 mm).
- Standard roller width spacing: 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm).
- Minimum width with hold down guides: 8 in (203 mm).
- Roller indents: 2 in (51 mm), 2.5 in (63 mm), 3 in (76 mm), or 3.5 in (89 mm) based on roller width spacing.
- Minimum roller indent with hold down guides: 3 in (76 mm).





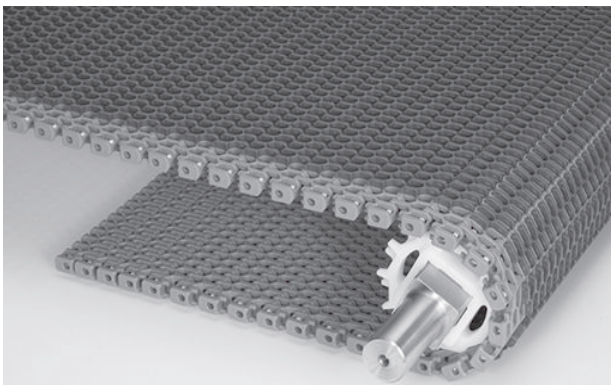
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength – Roller Width Spacing 2 in lbf/ft	51 mm N/m	3 in lbf/ft	76 mm N/m	4 in lbf/ft	102 mm N/m	Roller Indents in	mm	Curved Belt Strength	Temp. Range (continuous) °F	°C	Belt Mass lb/ft²	kg/m²
Polypropylene	Acetal	700	10,200	800	11,700	900	13,100	2 2.5 to 3.5	51 64 to 89	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.21	1.21
Acetal	Nylon	1,000	14,600	1,200	17,500	1,300	12,749	2 2.5 to 3.5	51 64 to 89		-50 to 200	-46 to 93	1.61	7.68
Polypropylene	Polypropylene	600	8,760	700	10,200	800	11,700	2 2.5 to 3.5	51 64 to 89		34 to 220	1 to 104	1.04	5.11

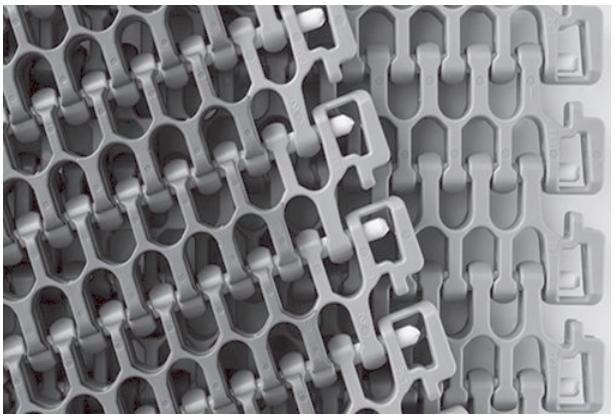
Flush Grid Friction Top 2.2 with Load-Sharing™ Edge

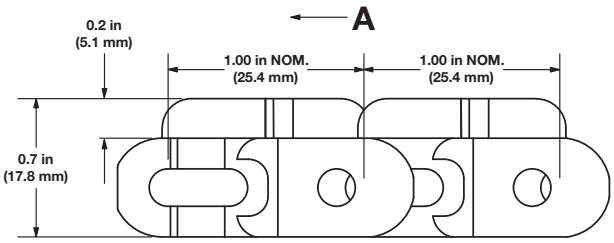
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36.0	914.0
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Available in grey polypropylene with grey rubber and white polypropylene with white rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.5 in (38 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





A preferred run direction for flat, turning applications

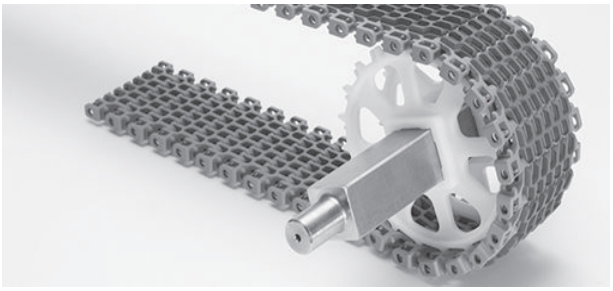
Belt Data

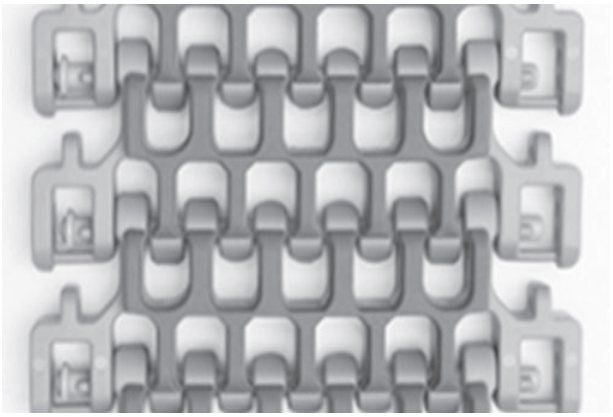
Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/Grey	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.35	6.59	64 Shore A		
Polypropylene	White/White	Acetal	1,200	17,500		34 to 150	1 to 66	1.35	6.59	55 Shore A	b	c
Polypropylene	Grey/Grey	Polypropylene	1,000	14,600		34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/White	Polypropylene	1,000	14,600		34 to 150	1 to 66	1.29	6.30	55 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

Radius Friction Top Mold to Width with Load-Sharing™ Edge

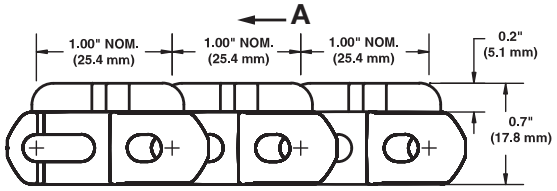
	in	mm
Pitch	1.00	25.4
Minimum Width	4.0	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Available in grey polypropylene with grey rubber and white polypropylene with white rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Detailed material information is provided at the beginning of Product Line.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width.
- Minimum recommended turn ratio is 1.95. Contact Intralox Customer Service when considering minimum turn ratio.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Available widths: 4 in (101.6 mm), 6 in (152.4 mm), 8 in (203.2 mm), and 10 in (254 mm).
- Indent for friction surface:
  - On 4-in (101.6 mm) and 6-in (152.4 mm) widths: indent molded at 0.70 in (17.78 mm).
  - On 8-in (203.2 mm) and 10-in (254 mm) widths: indent molded at 0.95 in (24.1 mm).
- For 4 in (102 mm) wide belts with hold down guides, do not use glass-filled nylon split sprockets.
- Maximum number of sprockets:
  - 4 in (101.6 mm) belts without hold down guides: two sprockets.
  - 4 in (101.6 mm) belts with hold down guides: one sprocket.
  - 6 in (152.4 mm) belts without hold down guides: four sprockets.
  - 6 in (152.4 mm) belts with hold down guides: three sprockets.
  - 8 in (203.2 mm) belts with and without hold down guides: five sprockets.
  - 10 in (254 mm) belts with and without hold down guides: seven sprockets.
- Minimum nosebar diameter:
  - belts without hold down guides: 1.375 in (34.9 mm).
  - belts with hold down guides: 1.50 in (38.1 mm).



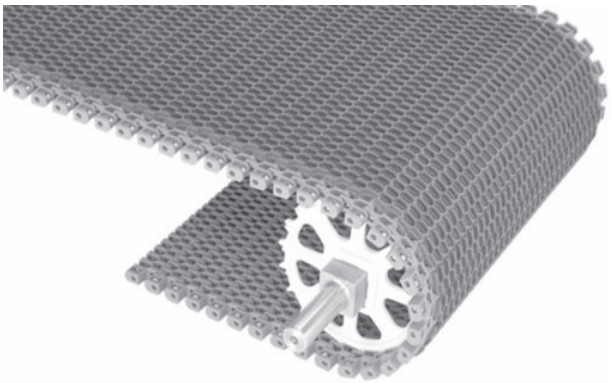
A preferred run direction for flat, turning applications

Belt Data

Base Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Hold Down Guides	Straight Belt Strength lbf (N) 4.0 in (101.6 mm)	6.0 in (152.4 mm)	8.0 in (203.2 mm)	10.0 in (254 mm)	Curved Belt Strength	Temp. Range (continuous) F°	C°	Belt Mass lb/ft (kg/m) 4.0 in (101.6 mm)	6.0 in (152.4 mm)	8.0 in (203.2 mm)	10.0 in (254 mm)
Polypropylene	Nylon	Without	400 (1,780)	600 (2,670)	800 (3,560)	1,000 (4,450)	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	0.39 (0.58)	0.60 (0.89)	0.82 (1.22)	1.01 (1.50)
		With	242 (1,080)	600 (2,670)	800 (3,560)	1,000 (4,450)		34 to 150	1 to 66	0.43 (0.64)	0.65 (0.978)	0.86 (1.28)	1.06 (1.58)

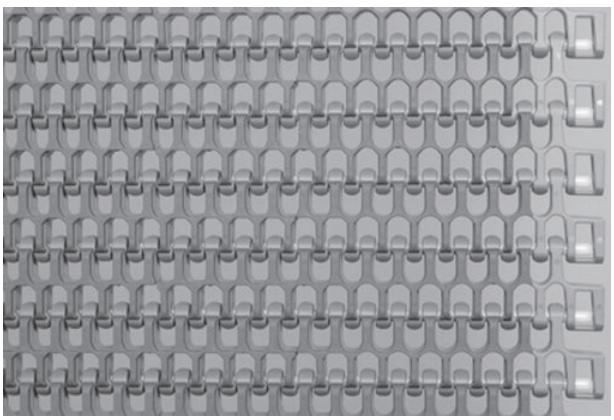
Radius Friction Top (2.2)

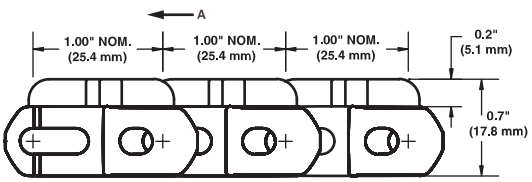
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in grey polypropylene with grey rubber and white polypropylene with white rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Radius belt wearstrips are available.
- Available with hold down guides, see Hold Down Guides (2.2 Only) for details.
- Contact Intralox Customer Service before using a belt width greater than 36 in (914 mm) in turning or spiral applications.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





A preferred run direction for flat, turning applications

Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lbf/ft	Belt Strength N/m	Curved Belt Strength	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Mass lb/ft²	Belt Mass kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	Grey/grey	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.35	6.59	64 Shore A		
Polypropylene	White/white	Acetal	1,200	17,500		34 to 150	1 to 66	1.35	6.59	55 Shore A	b	c
Polypropylene	Grey/grey	Polypropylene	1,000	14,600		34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/white	Polypropylene	1,000	14,600		34 to 150	1 to 66	1.29	6.30	55 Shore A	b	c
Polypropylene	High-performance FT blue/blue	Acetal	1,200	17,500		34 to 200	1 to 93	1.35	6.59	59 Shore A	b	c

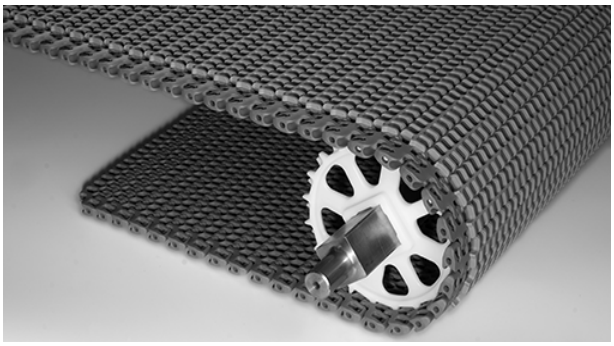
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

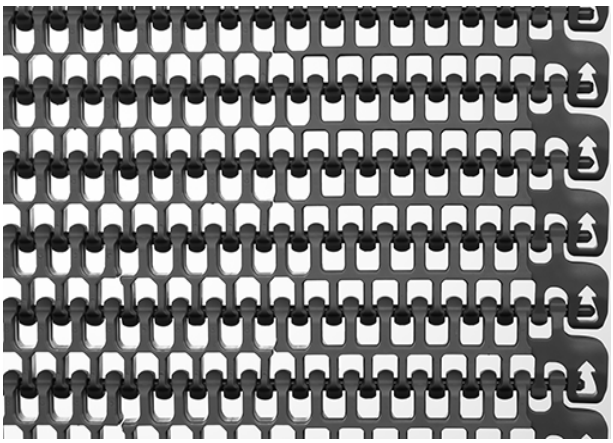
Radius Friction Top with Heavy-Duty Edge

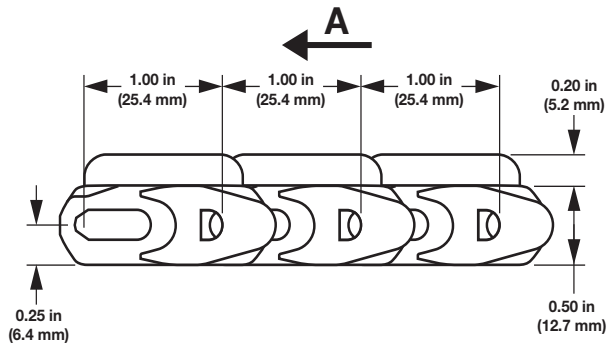
	in	mm
Pitch	1.0	25.4
Minimum Width	4.0	101.6
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Belt openings pass straight through the belt to simplify cleaning.
- Available in grey polypropylene with grey rubber, white polypropylene with white rubber, and blue polypropylene with high-performance blue rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).







A preferred run direction for flat, turning applications

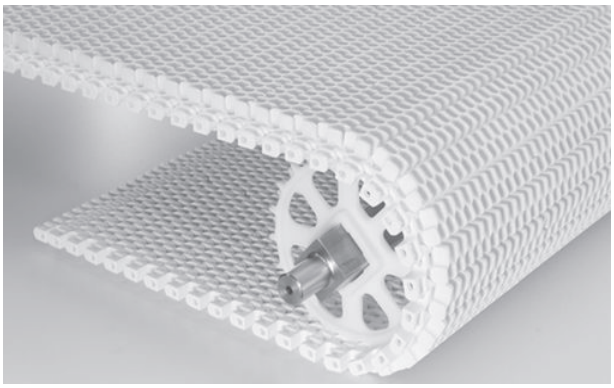
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lbf/ft	Belt Strength N/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft²	Belt Mass kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	Grey/grey	PK	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/white	PK	1,200	17,500		34 to 150	1 to 66	1.29	6.30	55 Shore A	b	c
Polypropylene	Blue/high-performance FT blue	PK	1,200	17,500		34 to 176	1 to 80	1.35	6.59	59 Shore A	a	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

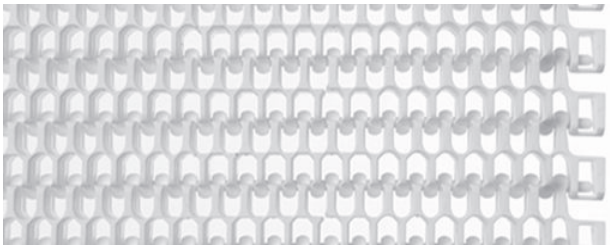
0.4 in High Radius Friction Top

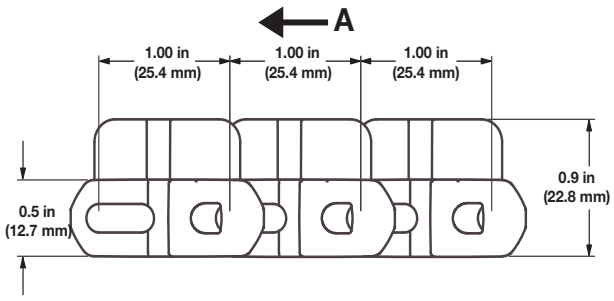
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Makes turns with an inside turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Indent for friction surface is molded at 0.95 in (24.1 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).





A preferred run direction for flat, turning applications

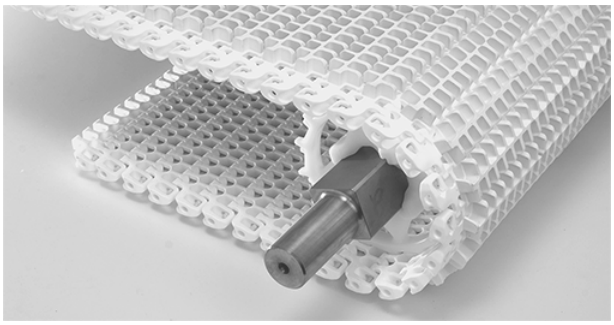
Belt Data

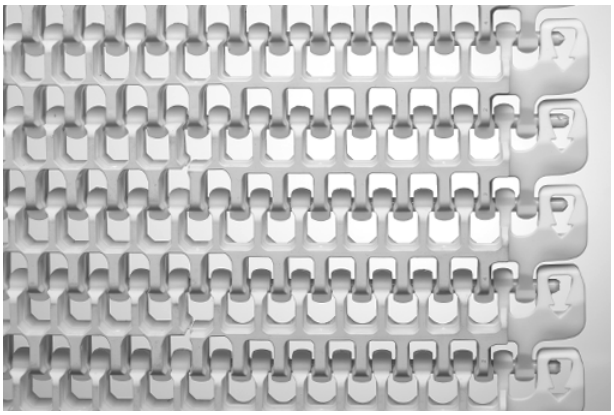
Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lbf/ft	Belt Strength N/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft²	Belt Mass kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	White/white	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.77	8.65	55 Shore A	[b]	[c]
Polypropylene	White/white	Polypropylene	1,000	14,600		34 to 150	1 to 66	1.69	8.25	55 Shore A	[b]	[c]
Polypropylene	Blue/high-performance FT blue	Polypropylene	1,200	17,500		34 to 212	1 to 100	1.77	8.65	59 Shore A	[b]	[c]

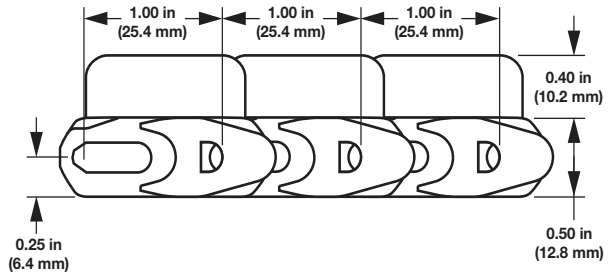
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

0.4 in High Radius Friction Top with Heavy-Duty Edge

	in	mm
Pitch	1.0	25.4
Minimum Width	4.0	101.6
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Belt openings pass straight through the belt to simplify cleaning.
- Available in white polypropylene with white rubber and blue polypropylene with high-performance blue rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Makes turns with an inside radius of 2.2 times the belt width.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Indent for friction surface: 0.95 in (24.1 mm)
- Minimum nosebar diameter: 1.375 in (34.9 mm).

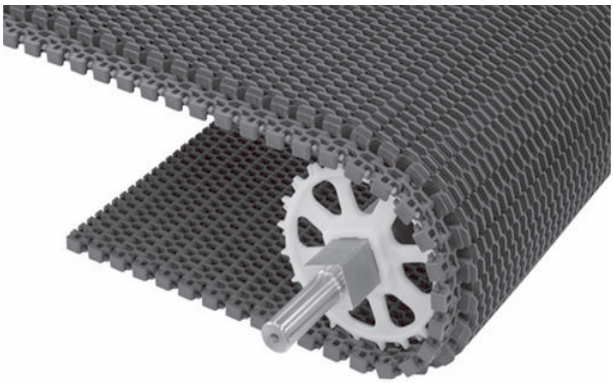
Belt Data

Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[c]
Polypropylene	White/white	PK	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.69	8.25	55 Shore A	[d]	[e]
Polypropylene	Blue/high-performance blue	PK	1,200	17,500		34 to 176	1 to 80	1.77	8.65	59 Shore A	[d]	[e]

[c] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[d] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[e] EU compliant with restriction: Do not use in direct contact with fatty foods.

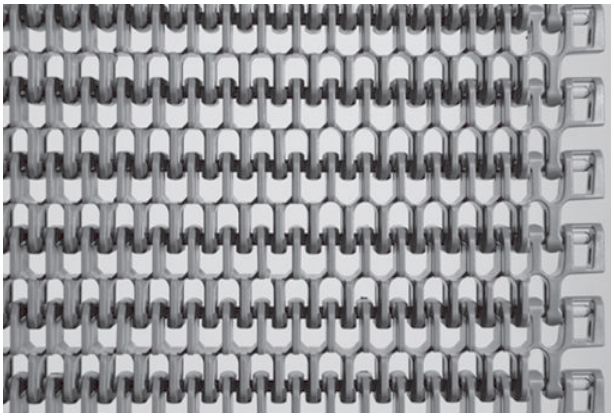
Radius Raised Rib

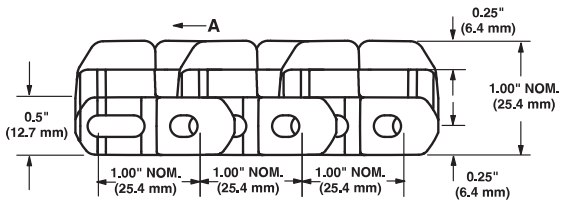
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	18%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Permits airflow through the belt to provide cooling in food-processing applications.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Makes turns with an inside turn radius of 2.2 times the belt width.
- Facilitates smooth transfers of small packages with the addition of transfer plates.
- Works with standard S2400 wearstrips.
- Standard indent: 1.12 in (28.6 mm).
- Belt deck height: 0.5 in (12.7 mm) higher than the standard S2400 belt.





A preferred run direction for flat, turning applications

Belt Data

Belt Material	Default Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1,200	17,500	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.98	9.68
Acetal	Nylon	1,700	24,800		-50 to 200	-46 to 93	3.00	14.67
Polypropylene	Polypropylene[a]	1,000	14,600		34 to 220	1 to 104	1.92	9.39
HR nylon	Nylon	1,700	24,800		-50 to 240	-46 to 116	2.5	12.25

[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

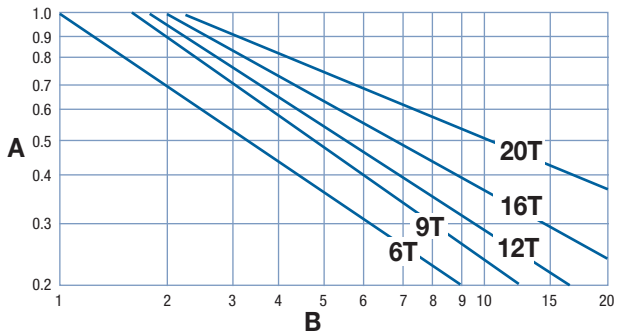
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips[c]	
in	mm		Carryway	Returnway
4	102	1	2	2
5	127	2	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	5	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	5	4	3
30	762	7	5	4
32	813	7	5	4
36	914	7	5	4
42	1,067	9	6	5
48	1,219	11	7	5
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.50 in (12.7 mm) increments beginning with minimum width of 4 in (102 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see Retainer Rings and Center Sprocket Offset.

[c] The number of wearstrips given does not include the hold down wearstrip.

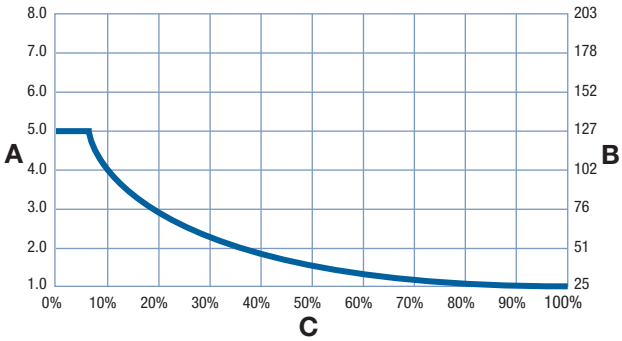
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

SERIES 2400

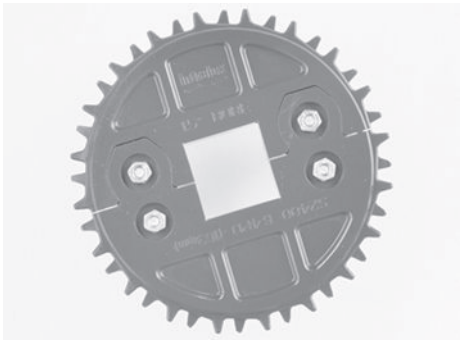
Molded Sprocket[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm	
6[c, d] (13.40%)	2.0	51	2.0	51	0.54	14	0.75		20		
9[c, d] (6.03%)	2.9	74	2.9	74	1.0	25	1	1	25	25	
12 (3.41%)	3.9	99	4.0	102	1.0	25	1 to 1.5	1.5[d]	25 to 40	40[d]	
16 (1.92%)	5.1	130	5.2	132	1.0	25	1 to 1.5	1.5	25 to 40	40	
20 (1.23%)	6.4	163	6.4	163	1.0	25	1 to 1.5	1.5	25 to 40	40	

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

[c] The 2.0 in (51 mm) pitch diameter 6 tooth sprocket and the 2.9 in (74 mm) pitch diameter 9 tooth sprocket have a recommended belt pull of 60 lbf/sprocket (267 N/sprocket).

[d] Do not use this sprocket with hold down guides.

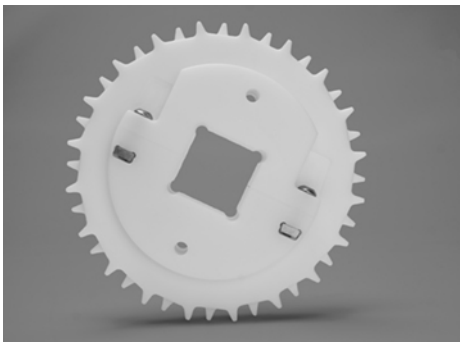
Split Ultra Abrasion Resistant Polyurethane Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.0	25		1.5[b]		40[b]	
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40	

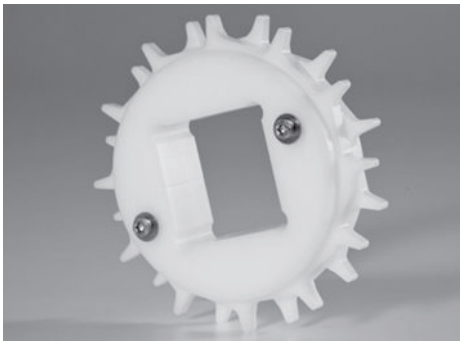
[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lbf/ft (10,900 N/m) is de-rated to 750 lbf/ft (10,900 N/m) and all other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] FDA-compliant materials are available.

Nylon (FDA) Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
12 (3.41%)	3.9	99	4	102	1.0	25	1, 1-1/4	1.5[b]			
16 (1.92%)	5.1	130	5.2	132	1.0	25	1.25			40	
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5			

[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
[b] Do not use this sprocket with hold down guides.

Split Natural Nylon (FDA) Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
20 (1.23%)	6.4	163	6.4	163	1.5	38		1.5			

Acetal Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
12 (3.41%)	3.9	99	3.9	99	1.0	25	1-1/4	1.5[b]			

[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
[b] Do not use this sprocket with hold down guides.

Glass-Filled Nylon Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.0	25		1.5		40	

Glass-Filled Nylon Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.5	38	1-1/4		30, 40		

[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

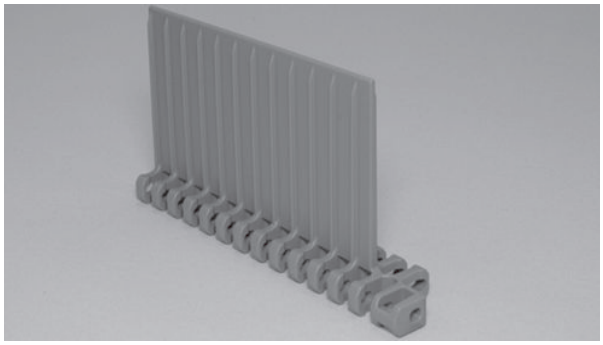
HR Nylon EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.0	25				40	

No-Cling Flights

Available Flight Height		Available Materials
in	mm	
3.0	76	Polypropylene, polyethylene, acetal, X-ray detectable acetal

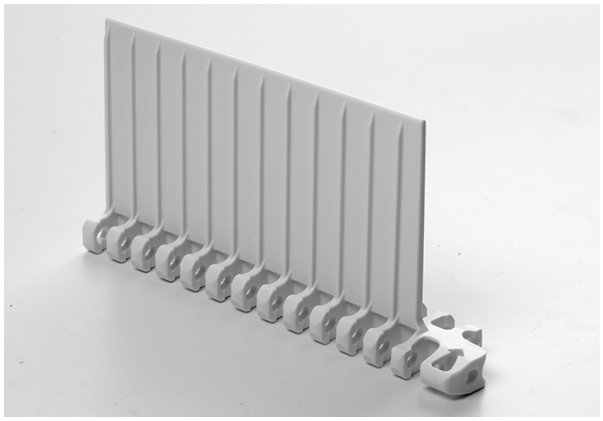
- Flights do not have bottom hold down guides, but can be used with the bottom hold down belt style, with a minimum flight spacing of 4 in (102 mm).
- Minimum indent: 1.125 in (29 mm).



Heavy-Duty Edge Flights

Available Flight Height		Available Materials
in	mm	
3.0	76	Acetal, Propylene, PK

- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Flush edge features an intuitive molded-in arrow to indicate preferred run direction, and extensions to reduce finger entrapment.
- Flights do not have bottom hold down guides, but can be used with the bottom hold down belt style, with a minimum flight spacing of 4 in (102 mm).
- Minimum indent: 1.125 in (29 mm).



Universal Sideguards

Available Sideguard Height		Available Materials
in	mm	
1	25	Polypropylene, acetal
3	76	

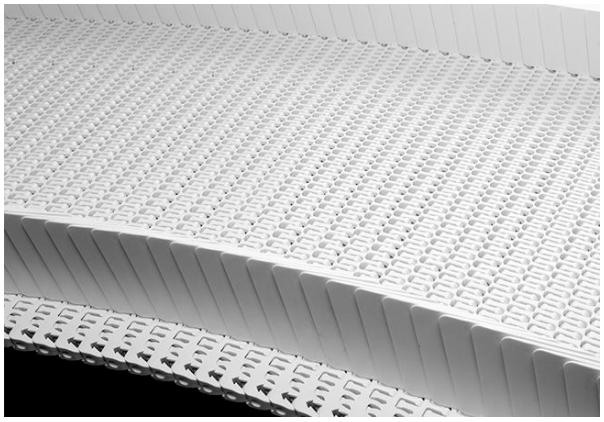
- Standard overlap design ensures product containment.
- Fastens to belt with hinge rods. No other fasteners required.
- Can be used in multiple rows to separate product.
- Easily cleanable. Suitable (FDA accepted) for food applications.
- Minimum indent required: 0.9 in (22 mm) for 2.2 turn ratios, 1.4 in (35 mm) for 2.2 turn ratios with hold down guide, 2.9 in (73 mm) for 1.7 turn ratios.



Heavy-Duty Edge Sideguards

Available Sideguard Height		Available Materials
in	mm	
1.0	25	Polypropylene, polyethylene[a], acetal
3.0	76	

- Standard overlap design ensures product containment.
- Fastens to belt with hinge rods. No other fasteners required.
- Easily cleanable. Suitable (FDA accepted) for food applications.
- Minimum indent required: 0.9 in (22 mm) for 2.2 turn ratios, 1.4 in (35 mm) for 2.2 turn ratios with hold down guide, 2.9 in (73 mm) for 1.7 turn ratios.

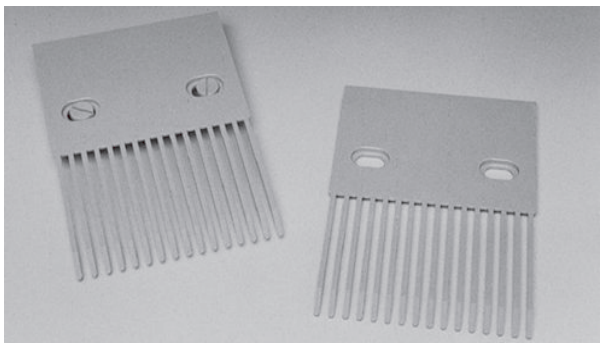


[a] Only available in 3.0 in (76 mm)

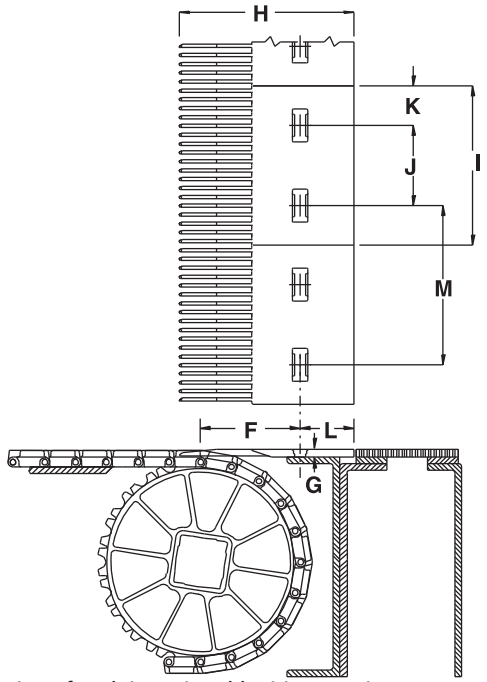
Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
4	102	16	Acetal

- Designed for use with Series 2400 Raised Rib belts, to eliminate product transfer and tipping problems.
- The fingers extend between the belt ribs, to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Finger transfer plates are easily installed on the conveyor frame with conventional fasteners.



Dimensional Requirements for S2400 Finger Transfer Plate Installation			
	in	mm	
F		2.38	61
G		0.19	5
H		5.83	148
I		3.96	101
J		2.50	64
K		0.74	19
L		2.00	51
M	PP	3.979	101.1
	AC	3.976	101.0

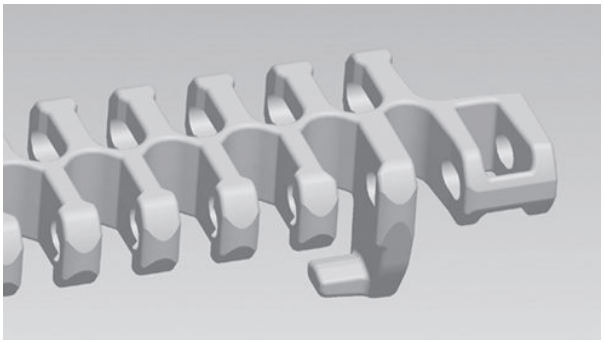


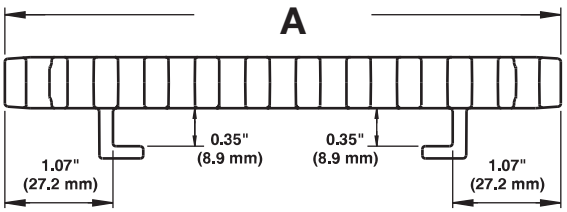
M spacing between finger transfer plates, at ambient temperature

Figure 80: Finger transfer plate and conveyor assembly

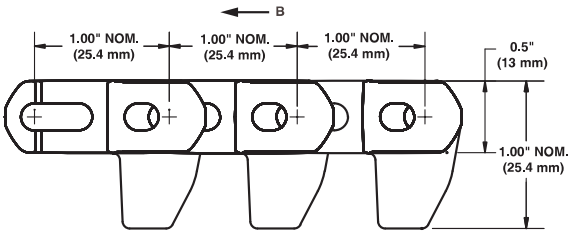
Hold Down Guides (2.2 Only)

- Materials available: polypropylene, acetal, HR nylon.
- Hold down guides are on the bottom of the belt for use when the belt edges must be clear. Also available on friction top modules.
- Hold down guides allow two belts to run next to each other without a large gap in between.
- The belt edge is smooth for reduced friction, and is relatively thick to provide wear resistance and protection for the rod retention.
- Not recommended for low-tension capstan drive spiral applications.
- Cannot be used with 2 in and 2.9 in pitch diameter sprockets or 3.9 in pitch diameter square bore sprockets.
- Other sprocket PDs with large bores may not produce enough clearance between the hold down guide and shaft. Subtracting bore size from the PD easily identifies these sprockets. If the number is less than 2.0 in (51 mm), this sprocket cannot be used with hold down guides.
- Minimum nosebar diameter: 1.5 in (38.1 mm).





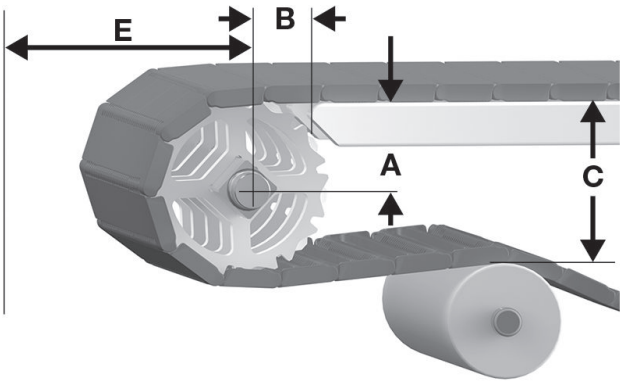
A Belt width
Figure 81: Front view



B preferred run direction for flat, turning applications
Figure 82: Side view

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components
Figure 83: A, B, C, and E drive dimensions

S2400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Radius Flush Grid - Straight Edge with or without hold down guides										
2.0[b]	51[b]	6	0.62-0.75	16-19	1.22	31	2.00	51	1.31	33
2.9[b]	74[b]	9	1.12-1.21	28-31	1.51	38	2.92	74	1.77	45
3.9	99	12	1.62-1.68	41-43	1.86	47	3.86	98	2.24	57
5.1	130	16	2.26-2.31	57-59	2.11	54	5.13	130	2.88	73
6.4	163	20	2.91-2.95	74-75	2.31	59	6.39	162	3.51	89
Radius Flush Grid High Deck, 0.4-in High Radius Friction Top										
2.0[b]	51[b]	6	0.62-0.75	16-19	1.22	31	2.40	61	1.71	43
2.9[b]	74[b]	9	1.12-1.21	28-31	1.51	38	3.32	84	2.17	55
3.9	99	12	1.62-1.68	41-43	1.86	47	4.26	108	2.64	67
5.1	130	16	2.26-2.31	57-59	2.11	54	5.53	140	3.28	83
6.4	163	20	2.91-2.95	74-75	2.31	59	6.79	172	3.91	99
Radius Friction Top - with or without hold down guides										
2.0[b]	51[b]	6	0.62-0.75	16-19	1.22	31	2.20	56	1.51	38
2.9[b]	74[b]	9	1.12-1.21	28-31	1.51	38	3.12	79	1.97	50
3.9	99	12	1.62-1.68	41-43	1.86	47	4.06	103	2.44	62
5.1	130	16	2.26-2.31	57-59	2.11	54	5.33	135	3.08	78
6.4	163	20	2.91-2.95	74-75	2.31	59	6.59	167	3.71	94
Radius with Insert Rollers (all styles) - free floating rollers										
2.0[b]	51[b]	6	0.62-0.75	16-19	1.22	31	2.09	53	1.40	36
2.9[b]	74[b]	9	1.12-1.21	28-31	1.53	39	3.01	76	1.86	47
3.9	99	12	1.62-1.68	41-43	1.78	45	3.95	100	2.33	59
5.1	130	16	2.26-2.31	57-59	2.06	52	5.21	132	2.96	75
6.4	163	20	2.91-2.95	74-75	2.31	59	6.48	165	3.60	91
Radius with Insert Rollers (all styles) - Driven Rollers										
2.0[b]	51[b]	6	0.53-0.66	13-17	1.24	31	2.09	53	1.40	36
2.9[b]	74[b]	9	1.04-1.12	26-31	1.57	40	3.01	76	1.86	47
3.9	99	12	1.53-1.59	39-40	1.92	49	3.95	100	2.33	59
5.1	130	16	2.18-2.23	55-57	2.19	56	5.21	132	2.96	75
6.4	163	20	2.82-2.86	72-73	2.41	61	6.48	165	3.60	91
Radius Raised Rib										
2.0	51	6	0.62-0.75	16-19	1.22	31	2.50	64	1.81	46
2.9	74	9	1.12-1.21	28-31	1.51	38	3.42	87	2.27	58
3.9	99	12	1.62-1.68	41-43	1.86	47	4.36	111	2.74	70
5.1	130	16	2.26-2.31	57-59	2.11	54	5.63	143	3.38	86
6.4	163	20	2.91-2.95	74-75	2.31	59	6.89	175	4.01	102

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.
[b] Cannot be used with hold down guides.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2400 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
2.9	74	9	0.088	2.2
3.9	99	12	0.065	1.7
5.1	130	16	0.050	1.3
6.4	163	20	0.039	1.0

HOLD DOWN WEARSTRIPS

The use of hold down wearstrips along both belt edges over the full carryway is recommended, except in heavily loaded or high-speed applications.

- For information about Intralox hold down wearstrips, see Custom Wearstrips.
- For information about conveyor design for hold down wearstrips, see Hold Down Wearstrips in the Design Guidelines chapter.

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

- The minimum turn radius for the standard edge S2400 is 2.2 times the belt width, measured from the inside edge. For the tight turning style, the minimum turn radius is 1.7 times the belt width.
- The minimum required straight run between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run leading to the drive shaft is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths, down to 1.5 times the belt width, require a gravity take-up to avoid sprocket wear and tracking problems. For more information, see Take-Ups.
- The minimum length of the first straight run immediately after the idle shaft is 1.5 times the belt width. When shorter lengths are required, down to 1.0 × the width, an idle roller can be used in place of sprockets.

Knuckle Chain

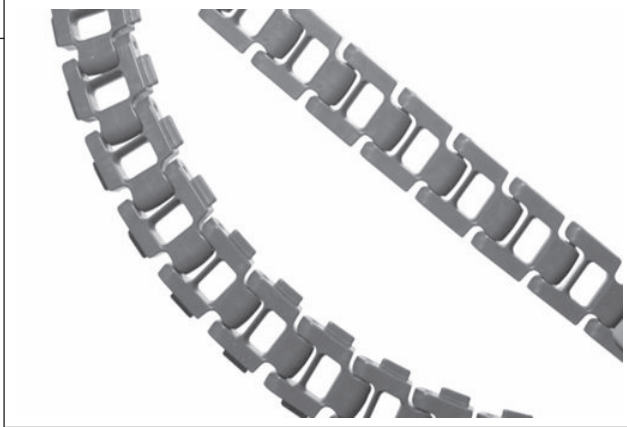
	in	mm
Pitch	2.00	50.8
Molded Width	2.25	57
Open Area	-	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

WARNING: Hold down wearstrips are mandatory on the inside and outside edges of all turns, on both the carrying and return side of the belt. Unless they interfere with the operation of the carrying equipment, use hold down wearstrips throughout the conveyor to protect the belt and personnel next to the conveyor.

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Thick, durable plastic surface around stainless steel pins for long life and less breakage.
- Available with extended pins.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Can run on the same tracks as other common chains.
- Available in both straight and turning versions. The straight version cannot be used for turning applications. Use the turning version for turning applications only.
- The turning version is designed for applications with a minimum centerline turn radius of 16 in (406 mm).
- Available in 10 ft (3 m) increments.



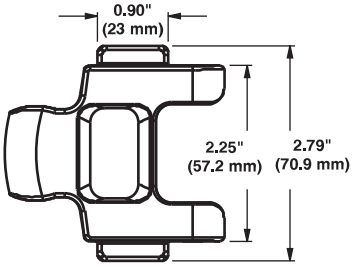
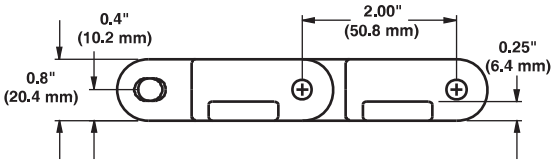


Figure 84: Series 3000T

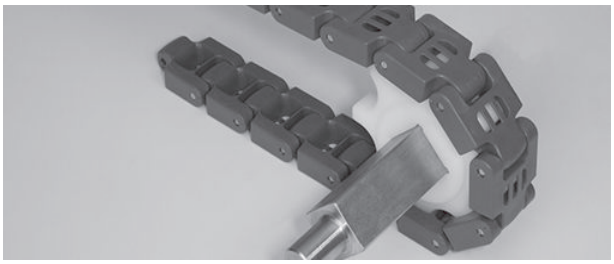


Belt Data

Chain Material	Default Rod Material, Diameter 0.25 in (6.4 mm)	Chain Strength		Temperature Range (continuous)		Chain Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal (straight)	303 SS	700	3,110	-50 to 200	-46 to 93	0.88	1.21
Acetal (turning)	303 SS	560	2,490	-50 to 200	-46 to 93	0.90	1.25

Mesh Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2.3	57.2
Opening Size (approximate)	-	-
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	

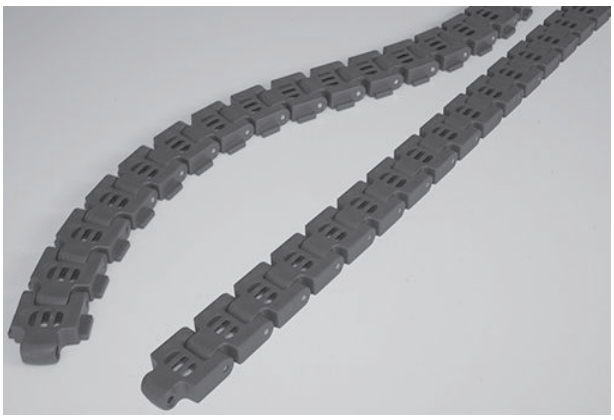


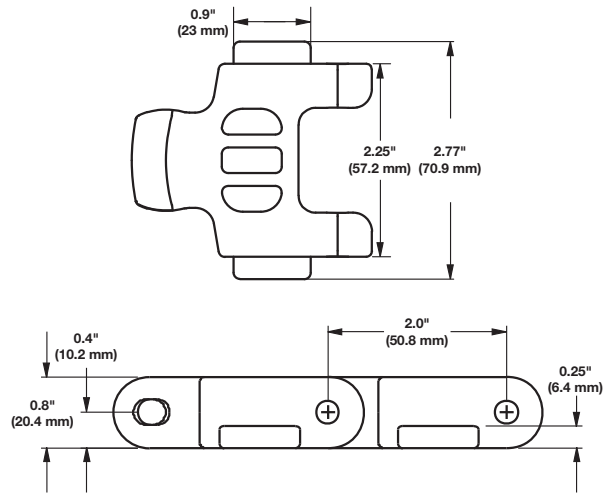
Product Notes

WARNING: Hold down wearstrips are mandatory on the inside and outside edges of all turns, on both the carrying and return side of the belt. Unless they interfere with the operation of the carrying equipment, use hold down wearstrips throughout the conveyor to protect the belt and personnel next to the conveyor.

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Mesh Top design eliminates open area for improved worker safety.
- Thick, durable plastic surface around stainless steel pins provides long life and less breakage.
- Available with extended pins.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Can run on the same tracks as other common chains.
- Improved design simplifies cleaning.
- Available in both straight and turning versions.

  NOTE: Only the turning version can be used for turning applications. The straight version cannot be used for turning applications.
- The turning version is designed for applications with a minimum centerline turn radius of 16 in (406 mm).
- Available in 10 ft (3 m) increments.

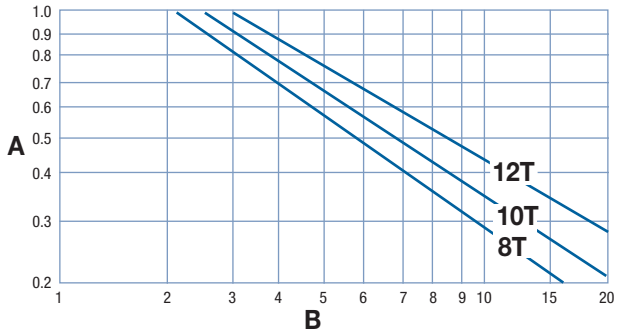




Belt Data

Chain Material	Default Rod Material, 0.25 in (6.4 mm)	Chain Strength		Temperature Range (continuous)		Chain Mass	
		lbf	N	°F	°C	lb/ft	kg/m
Acetal (straight)	303 SS	700	3,110	-50 to 200	-46 to 93	0.89	1.32
Acetal (turning)	303 SS	560	2,490	-50 to 200	-46 to 93	0.91	1.36

Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

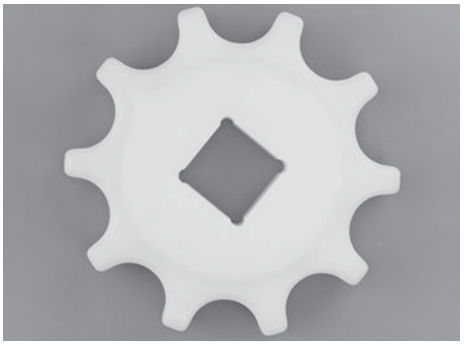
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Chain Pull Limit with UHMW-PE Sprockets, Based on Bore Size

No. of Teeth	Nom. Pitch Diameter		Sprocket Bore Size									
			1.5 in square		40 mm square		1 in round		1.25 in round		1.5 in round	
	in	mm	lbf	N	lbf	N	lbf	N	lbf	N	lbf	N
8	5.2	132	640	2,850	640	2,850	74	330	90	400	162	720
10	6.5	165	520	2,310	520	2,310	78	250	95	420	172	770
12	7.7	196	432	1,920	432	1,920	65	290	79	350	143	640

UHMW-PE Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
8 (7.61%) square bore	5.2	132	5.3	135	1.5	38		1.5		40
8 (7.61%) round bore	5.2	132	5.3	135	1.2	30	1-1/4			
10 (4.89%)	6.5	165	6.7	170	1.5	38	1-1/4	1.5		40
12 (3.41%)	7.7	196	8.0	203	1.5	38	1-1/4	1.5		40

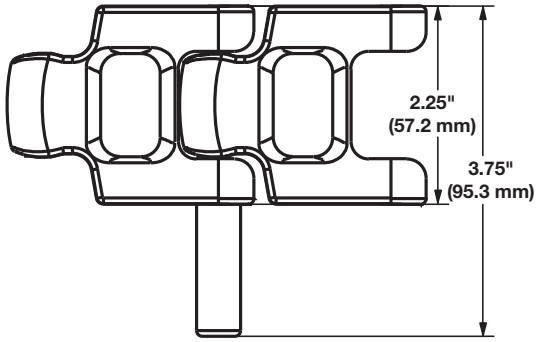


[a] Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

Extended Pins

- Modules with 303 stainless steel extended pins can be spliced into both the basic turning and straight running chains.
- These pins are commonly used in side-by-side chain strands where rollers are used for low back pressure applications.
- The minimum extended pin spacing is 2.0 in (50.8 mm).
- The extended pin modules can be spliced into the standard chain every 2.0 in (50.8 mm).
- Intralox offers only extended tabs and extended pins. Attachments for either of these accessories are not available through Intralox. Contact Intralox Customer Service for lead times.



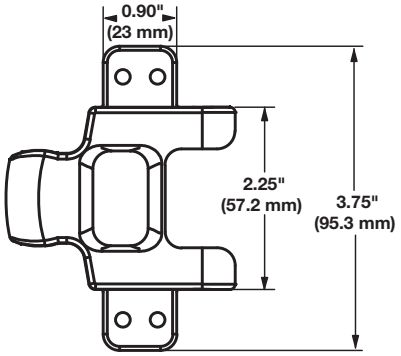


Extended pins for straight or turning versions

Extended Tabs

- Modules with extended tabs can be spliced into both the basic turning and straight running chains.
- These extended tabs can be used to attach flights, cleats, etc.
- The extended tab modules are based on the turning chain design, so the rating for the turning chain should be used even if the extended tab modules are spliced into straight running chain.
- The minimum tab spacing is 2.0 in (50.8 mm).
- The tabs can be spliced into the standard chain every 2.0 in (50.8 mm).
- Intralox offers only extended tabs and extended pins. Attachments for either of these accessories are not available through Intralox. Contact Intralox Customer Service for lead times.

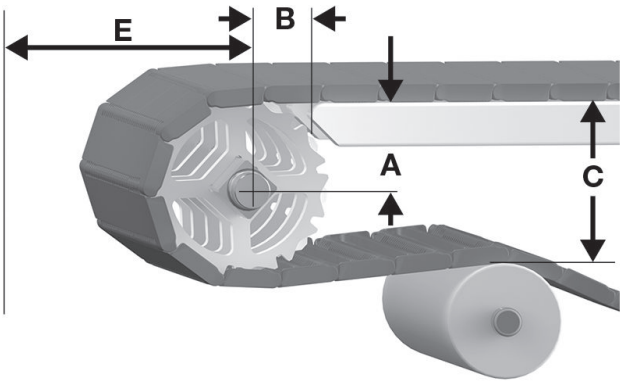




Extended tabs for straight or turning versions

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 85: A, B, C, and E drive dimensions

S3000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Knuckle Chain, Mesh Top										
5.2	132	8	2.01–2.21	51-56	2.29	58	5.23	1.33	3.14	80
6.5	165	10	2.68–2.84	68-72	2.63	67	6.47	164	3.76	96
7.7	196	12	3.33–3.46	85-88	2.94	75	7.73	196	4.39	112

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

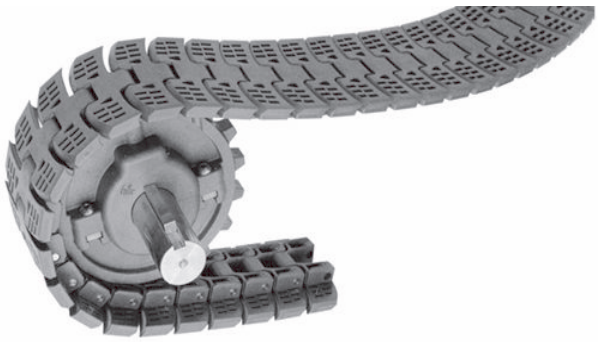
DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S3000 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

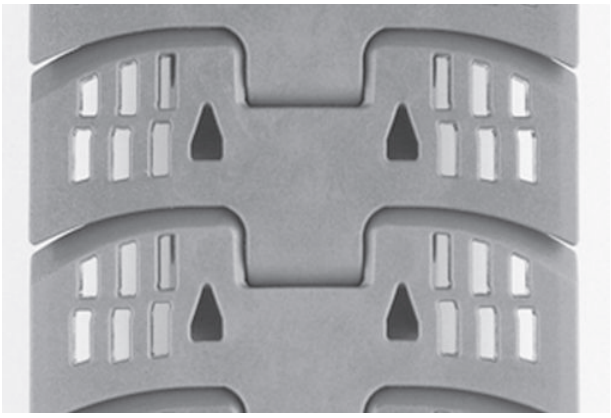
S4009 Flush Grid

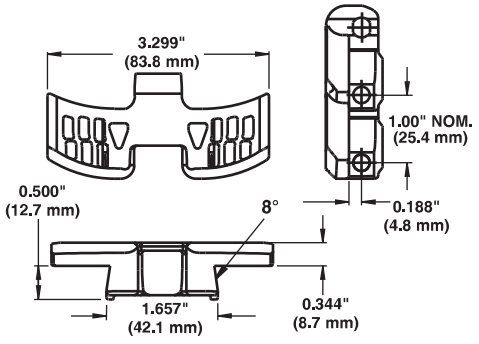
	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	13%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running belt counterpart Series 900 FG [0.344 in (8.7 mm)].
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses S1400 sprockets.
- All S1400 and S4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Available in 10 ft (3 m) increments.





Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm	(6.4 mm)	lbf	N	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.3	84	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	0.97	1.44	18	457
HHR nylon	3.3	84	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	0.97	1.44	18	457

S4009 Flat Top

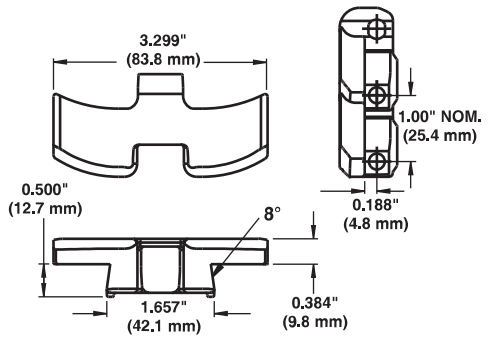
	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses S1400 sprockets.
- All S1400 and S4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- See the belt data table for minimum centerline turn radius.
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Available in 10 ft (3 m) increments.



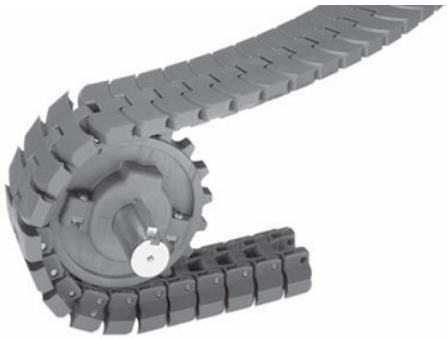


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.3	84	303 SS	500	2,220	-50 to 200	-46 to 93	1.11	1.65	18	457
HHR nylon	3.3	84	303 SS	500	2,220	-50 to 310	-46 to 154	0.98	1.46	18	457

S4014 Flat Top

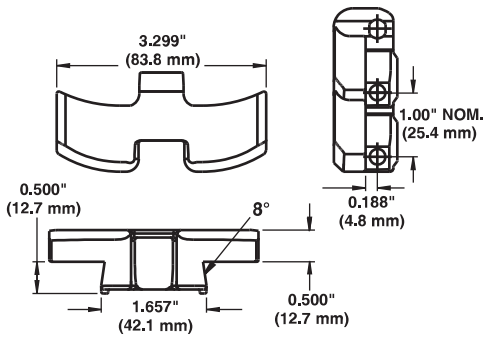
	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running belt counterpart, S1400 Flat Top: (0.5 in (12.7 mm).
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses S1400 sprockets.
- All S1400 and S4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Available in 10 ft (3 m) increments.



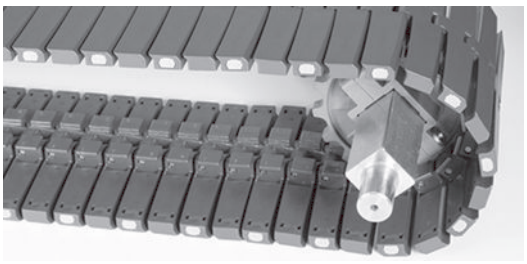


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.3	84	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.29	1.92	18	457

S4030 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

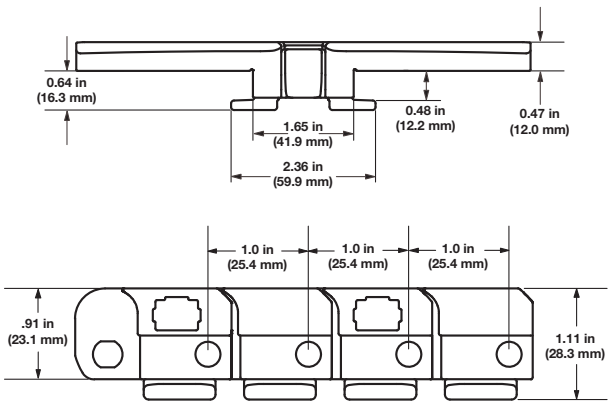
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4090.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).



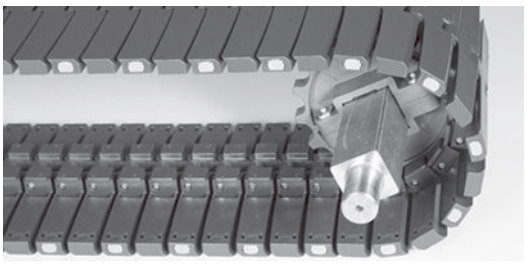


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	2.44	3.63	24	610

S4031 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

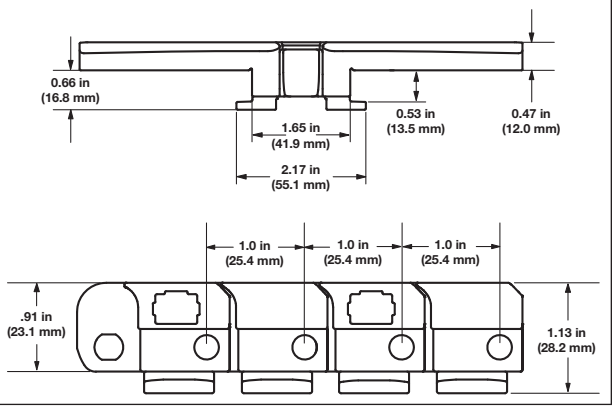
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4091.
- Thicker deck than S409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and S403X Sideflexing Flat Top modules.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).



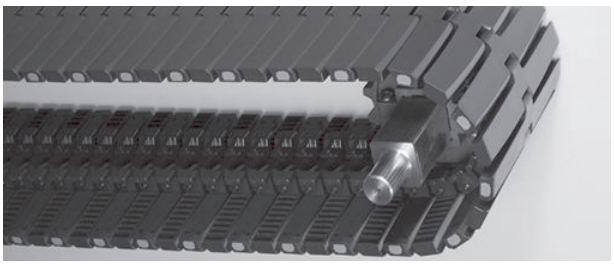


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	2.44	3.63	24	610

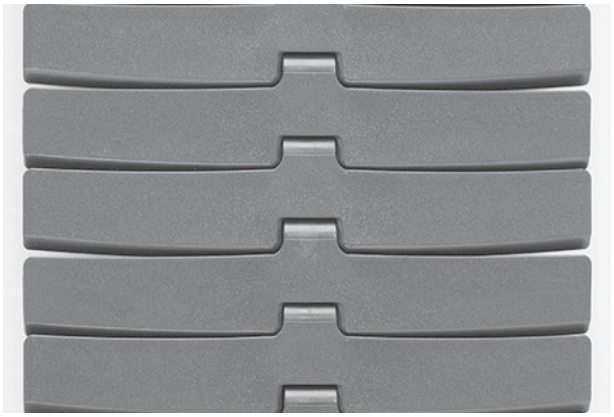
S4032 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

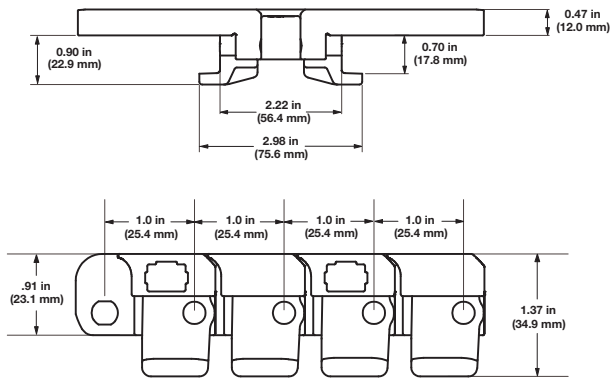
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4092.
- Thicker deck than S409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and S403X Sideflexing Flat Top modules.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, pan indexing, metering, de-lidding, and radius applications.
- Minimum sprocket pitch diameter: 5.1 in (129.5 mm).



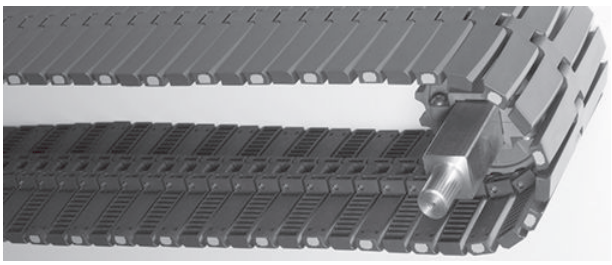


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	2.66	3.95	24	610

S4033 7.5-in ProTrax™ Sideflexing Flat Top

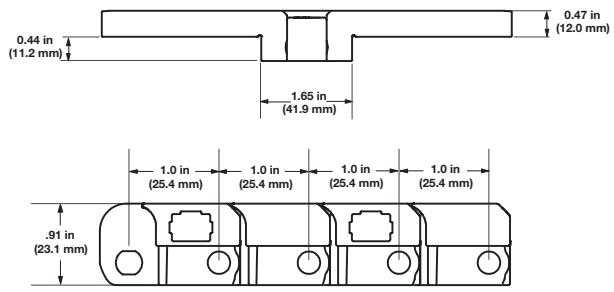
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal detectable, nylon caps retain magnets in modules.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).



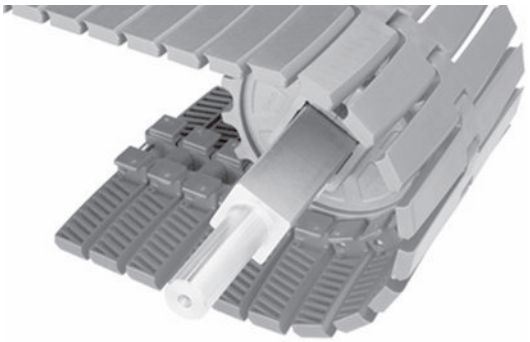


Belt Data

Belt Material	Belt Width		Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Mass		Minimum Centerline Turn Radius	
	in	mm		lbf	N	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	2.29	3.41	18	457

S4090 Sideflexing Flat Top

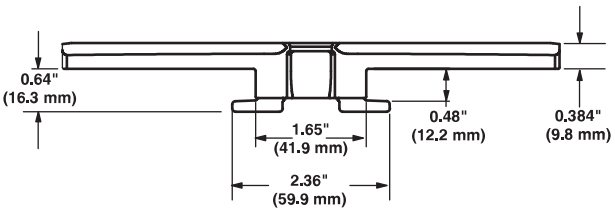
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running counterpart, S900 Flat Top [0.384 in (9.8 mm)].
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses S1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Customer Service for more information.
- See *Belt Data* for minimum centerline turn radius.
- Available in 10 ft (3 m) increments.
- Minimum backbend radius:
  - For 3.25 in (83 mm) and 4.5 in (114 mm) wide belts, the minimum backbend radius is 6 in (152.4 mm).
  - For 7.5 in (191 mm) wide, the minimum backbend radius is 9.25 in (235 mm) but 12 in (305 mm) is recommended.



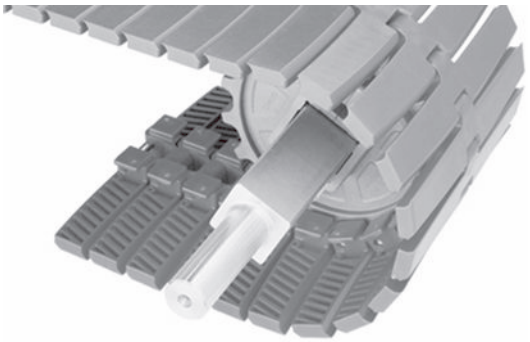


Belt Data

Belt Material	Belt Width in	Belt Width mm	Default Pin Material, Diameter 0.25 in (6.4 mm)	Belt Strength lbf	Belt Strength N	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft	Belt Mass kg/m	Minimum Centerline Turn Radius in	Minimum Centerline Turn Radius mm
Acetal	3.25	83	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.21	1.80	18	457
Acetal	4.5	114	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.40	2.08	18	457
Acetal	7.5	191	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.86	2.77	24	610
HR nylon	3.25	83	303 Stainless steel	500	2,220	-50 to 240	-46 to 116	1.02	1.52	18	457
HR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 240	-46 to 116	1.54	2.29	24	610
HHR nylon	3.25	83	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.04	1.55	18	457
HHR nylon	4.5	114	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.18	1.76	18	457
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.57	2.34	24	610

S4091 Sideflexing Flat Top

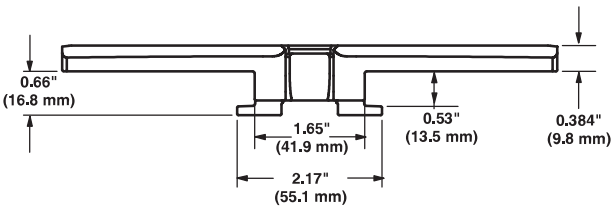
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running belt counterpart, S900 Flat Top [0.384 in (9.8 mm)].
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses S1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- See *Belt Data* for minimum centerline turn radius.
- Use the *Intralox Engineering Program* to calculate the estimated belt pull for your system. Contact Intralox Customer Service for more information.
- Available in 10 ft (3 m) increments.
- Minimum backbend radius:
  - For 3.25 in (83 mm) and 4.5 in (114 mm) wide belts, the minimum backbend radius is 6 in (152.4 mm).
  - For 7.5 in (191 mm) wide, the minimum backbend radius is 9.25 in (235 mm) but 12 in (305 mm) is recommended.



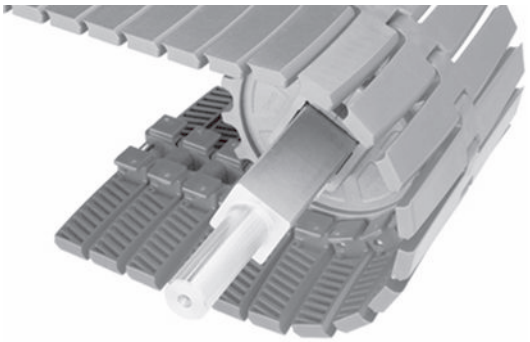


Belt Data

Belt Material	Belt Width in	Belt Width mm	Default Pin Material, Diameter 0.25 in (6.4 mm)	Belt Strength lbf	Belt Strength N	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft	Belt Mass kg/m	Minimum Centerline Turn Radius in	Minimum Centerline Turn Radius mm
Acetal	3.25	83	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.22	1.81	18	457
Acetal	4.5	114	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.40	2.08	18	457
Acetal	7.5	191	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.84	2.74	24	610
HR nylon	3.25	83	303 Stainless steel	500	2,220	-50 to 240	-46 to 116	1.02	1.52	18	457
HR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 240	-46 to 116	1.54	2.29	24	610
HHR nylon	3.25	83	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.04	1.55	18	457
HHR nylon	4.5	114	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.18	1.76	18	457
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.57	2.34	24	610

S4092 Sideflexing Flat Top

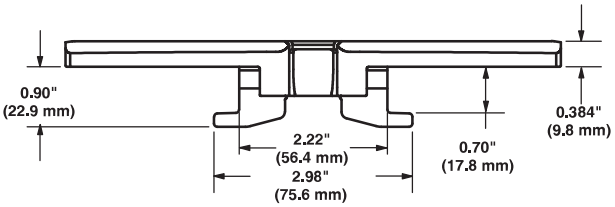
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running counterpart S900 Flat Top: 0.384 in (9.8 mm).
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Uses S1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- 3.9 in (99 mm) pitch diameter sprockets are not compatible with S4092 belts.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Customer Service for more information.
- Available in 10 ft (3 m) increments.
- Minimum backbend radius:
  - For 3.25 in (83 mm) and 4.5 in (114 mm) wide belts, the minimum backbend radius is 6 in (152.4 mm).
  - For 7.5 in (191 mm) wide, the minimum backbend radius is 9.25 in (235 mm) but 12 in (305 mm) is recommended.





Belt Data

Belt Material	Belt Width in	Belt Width mm	Default Pin Material, Diameter 0.25 in (6.4 mm)	Belt Strength lbf	Belt Strength N	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Mass lb/ft	Belt Mass kg/m	Minimum Centerline Turn Radius in	Minimum Centerline Turn Radius mm	Agency Acceptability FDA (USA)	Agency Acceptability J[a]	Agency Acceptability EU MC[b]
Acetal	3.25	83	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.43	2.13	18	457	c	c	c
Acetal	4.5	114	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	1.61	2.40	18	457	c	c	c
Acetal	7.5	191	303 Stainless steel	500	2,220	-50 to 200	-46 to 93	2.05	3.05	24	610	c	c	c
HR nylon	3.25	83	303 Stainless steel	500	2,220	-50 to 240	-46 to 116	1.26	1.87	18	457	c		c
HR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 240	-46 to 116	1.71	2.55	24	610	c		c
HHR nylon	3.25	83	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.28	1.92	18	457	c		c
HHR nylon	4.5	114	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.40	2.08	18	457	c		c
HHR nylon	7.5	191	303 Stainless steel	500	2,220	-50 to 310	-46 to 154	1.80	2.68	24	610	c		c

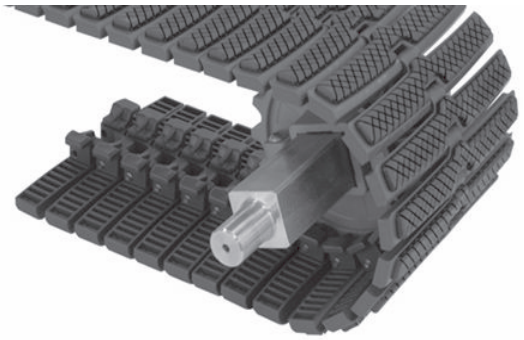
[a] Japan Ministry of Health, Labour, and Welfare

[b] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[c] Fully compliant

S4092 Sideflexing Square Friction Top

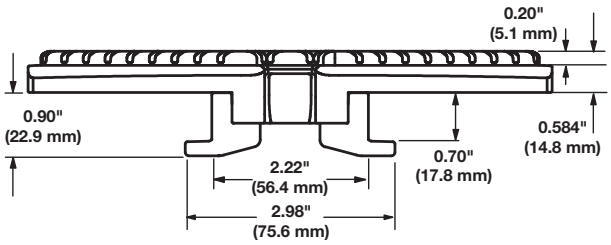
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in blue acetal with black rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Use the same sprockets as S1400 and S4000.
- Sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Use the *Intralox Engineering Program* to calculate the estimated belt pull for your system. Contact Intralox Customer Service for assistance.
- 3.9 in (99 mm) pitch diameter sprockets are not compatible with S4092 belts.
- Available in 10 ft (3 m) increments.



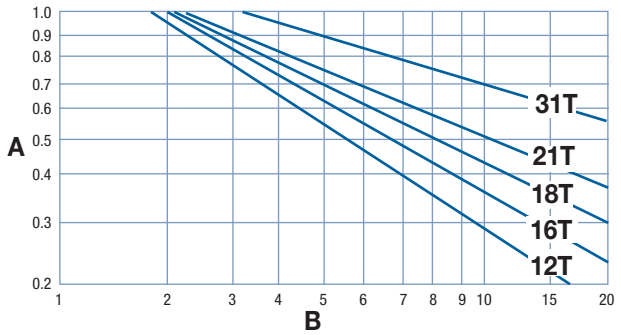


Belt Data

Base Belt Material	Belt Width		Base/ Friction Top	Default Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temp. Range (continuous)		Belt Mass		Friction Top Hardness	Minimum Centerline Turn Radius		Agency Acceptability	
	in	mm			lbf	N	°F	°C	lb/ft	kg/m		in	mm	FDA (USA)	EU MC[a]
Acetal	7.5	191	Blue/black	303 Stainless steel	500	2,220	-10 to 130	-23 to 54	2.35	3.50	54 Shore A	24	610	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

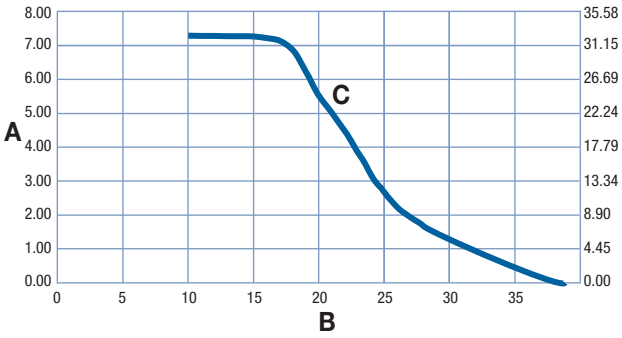
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

S4032 ProTrax with Tabs and S4033 ProTrax Magnet Force Vs. Metal Thickness



A magnet force (lbf)
B magnet force (N)
C metal thickness (steel gauge)

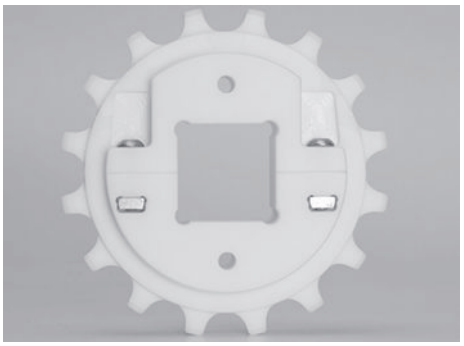
NOTE: Magnet force shown is for a single magnet within one wing of one module, using a flat pan. Results vary for different pan styles and surface textures.

Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nominal Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	3.9[a]	99[a]	3.9	99	1.5	38		1.5		40
15 (2.19%)	4.9	124	4.9	124	1.5	38		2.5		60
18 (1.52%)	5.7	145	5.8	148	1.5	38	2	2.5	50	60
24 (0.86%)	7.7	196	7.8	198	1.5	38		2.5		60



[a] 3.9 PD sprockets are not compatible with S4092 belts.

Nylon (FDA) Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.5	38	1.25, 1.5	1.5	30	40	

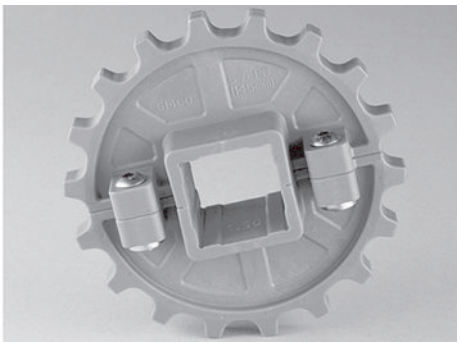
[a] U.S. key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.

Maximum Load per Glass-Filled Nylon Split Sprocket														
No. of Teeth	Nom. Pitch Diameter		Round Bore Size Range											
			1 in to 1-3/16 in		1-1/4 in to 1-3/8 in		1-7/16 in to 1-3/4 in		1-13/16 in to 2 in		25 mm to 35 mm		40 mm to 50 mm	
	in	mm	lbf	N	lbf	N	lbf	N	lbf	N	lbf	N	lbf	N
18	5.7	145	300	1,330	340	1,510	400	1,780	540	2,400	240	1,070	410	1,820
21	6.7	170	225	1,000	275	1,220	350	1,560	500	2,220	175	780	400	1,780

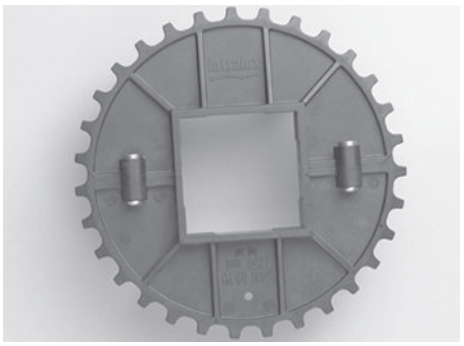
Glass-Filled Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
18 (1.52%)	5.7	145	5.8	148	2.0	51	1 to 2[b]	1.5, 2.5	25 to 50[c]	40, 60	
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5, 2.5		40, 60	

[a] Imperial key sizes on round bore sprockets are based on ANSI standard B17.1-1967 (R1989) and metric key sizes are based on DIN standard 6885.
[b] in 1/16 in increments
[c] in 5 mm increments

Polypropylene Composite Split Sprockets

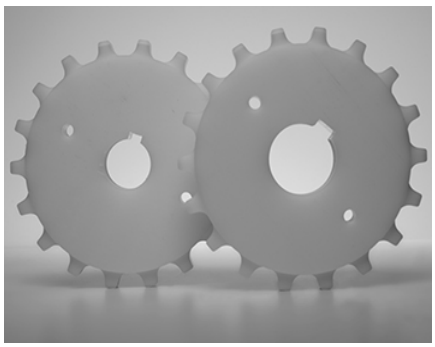
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
18 (1.52%)	5.7	145	5.8	148	2.0	51		1.5, 2.5		40, 60	
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5, 2.5		40, 60	
31 (0.51%)	9.9	251	10.1	257	2.0	51		3.5			

Polyurethane Composite Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
31 (0.51%)	9.9	251	10.1	257	1.50, 1.67	38, 44		3.5 2.5[a]			

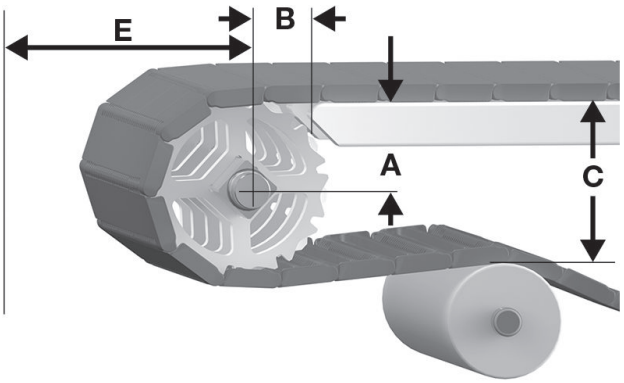
[a] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

Machined Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
18 (1.52%)	5.7	145	5.8	148	1.5	38			30, 40		

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 86: A, B, C, and E drive dimensions

S4000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
S4009 Flush Grid										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.62	117	2.73	69
5.1	130	16	2.73-2.78	69-71	2.51	64	5.90	150	3.37	86
5.7	145	18	3.05-3.10	77-79	2.54	65	6.54	166	3.69	94
6.7	170	21	3.54-3.58	90-91	2.70	69	7.50	191	4.17	106
9.9	251	31	5.15-5.18	131-132	3.15	80	10.70	272	5.77	147
S4009 Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	69-71	2.51	64	5.94	151	3.41	87
5.7	145	18	3.05-3.10	77-79	2.54	65	6.58	167	3.73	95
6.7	170	21	3.54-3.58	90-91	2.70	69	7.54	192	4.21	107
9.9	251	31	5.15-5.18	131-132	3.15	80	10.74	273	5.81	148
S4014 Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.24	108	2.68	68
5.1	130	16	2.73-2.78	69-71	2.51	64	5.49	139	3.64	92
5.7	145	18	3.05-3.10	77-79	2.54	65	6.09	155	3.95	100
6.7	170	21	3.54-3.58	90-91	2.70	69	7.09	180	4.43	113
9.9	251	31	5.15-5.18	131-132	3.15	80	10.86	276	5.93	151
S4030 and S4031 7.5-in ProTrax Sideflexing Flat Top with Tabs										
3.9	99	12	2.07-2.17	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	67-71	2.51	64	5.989	152	3.459	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.629	168	3.779	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.589	193	4.259	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.789	274	5.859	149

S4000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
S4032 7.5-in ProTrax Sideflexing Flat Top with Tabs										
5.1	130	16	2.73-2.78	67-71	2.51	64	5.99	152	3.46	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.63	168	3.78	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.59	193	4.26	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.79	274	5.86	149
S4033 7.5-in ProTrax Sideflexing Flat Top										
3.9	99	12	2.07-2.17	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	67-71	2.51	64	5.989	152	3.459	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.629	168	3.779	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.589	193	4.259	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.789	274	5.859	149
S4090, S4091, S4092 Sideflexing Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.62	117	2.73	69
5.1	130	16	2.73-2.78	69-71	2.51	64	5.90	150	3.37	86
5.7	145	18	3.05-3.10	77-79	2.54	65	6.54	166	3.69	94
6.7	170	21	3.54-3.58	90-91	2.70	69	7.50	191	4.17	106
9.9	251	31	5.15-5.18	131-132	3.15	80	10.70	272	5.77	147
S4092 Sideflexing Square Friction Top										
5.2	132	16	2.73-2.78	69-71	2.51	64	6.14	156	2.84	72
5.8	147	18	3.05-3.10	77-79	2.54	65	6.78	172	3.16	80
6.8	173	21	3.54-3.58	90-91	2.70	69	7.74	197	3.64	92
10.0	254	31	5.15	131	3.15	80	10.94	278	5.24	133

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S4000 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.9	99	12	0.066	1.7
5.1	130	16	0.050	1.3
5.7	145	18	0.044	1.1
6.7	170	21	0.038	1.0
9.9	251	31	0.025	0.6

SPIRAL BELTS

ENGINEERING ANALYSIS FOR SPIRAL AND RADIUS BELTS

Intralox can provide an engineering analysis for spiral and radius applications, to determine the estimated belt pull, and ensure that the belt is strong enough for the application. Contact Intralox Customer Service for more information.

The following information is required for an engineering analysis:

- Any environmental conditions which can affect the friction coefficient. For dirty or abrasive conditions, use higher-than-normal friction coefficients.
- Belt width
- Length of each straight section
- Angle, direction, and inside radius of each turning section
- Carryway and hold down wearstrip materials.
- Product load lbf/ft^2 (N/m^2)
- Product accumulation conditions
- Belt speed
- Elevation changes in each section
- Operating temperatures
- Sprocket and shaft specifications

Intralox can help select radius belt and low-tension capstan drive spiral belts for your application. Contact Intralox Customer Service for more information.

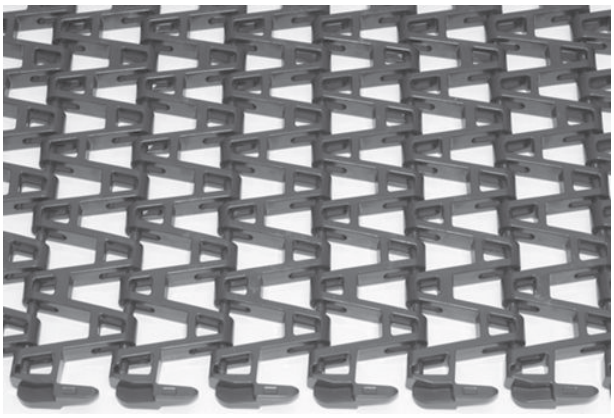
Spiral 1.0

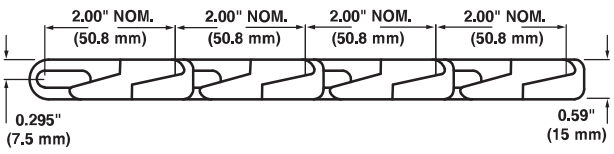
	in	mm
Pitch	2.00	50.8
Minimum Width	18	660
Maximum Width	50	1270
Width Increments	1.0	25.4
Opening Size (approximate)	0.85 x 0.88	21.6 x 22.5
Open Area (fully extended)	56%	
Minimum Open Area (1.0TR)	22%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.0 times the belt width (measured from inside edge).
- Use the *Intralox Engineering Program* to predict strength requirements for radius applications, and ensure that the belt is strong enough for the application.
- For belt widths under 26 in (660 mm) and over 50 in (1270 mm), contact Intralox Customer Service.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside (collapsed) edge of the spiral: 12 in (304.8 mm).





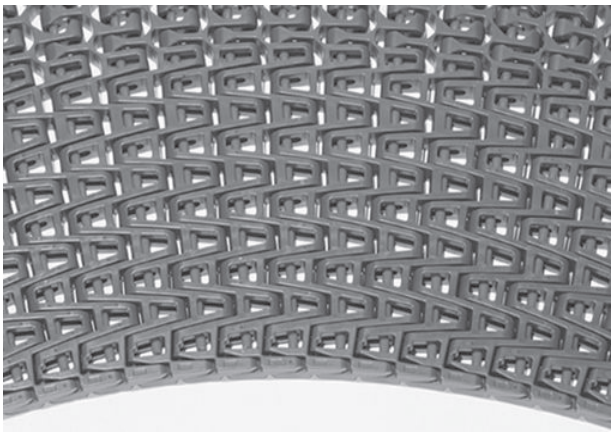
Belt Data

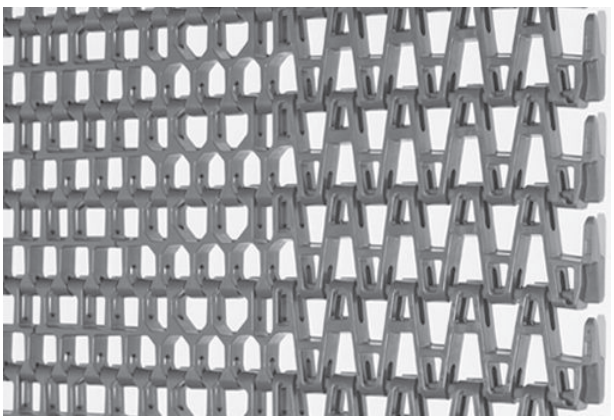
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,300	19,000	300	1,330	-50 to 200	-46 to 93	1.46	7.13
SELM	Acetal	1,100	16,100	300	1,330	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

Spiral 1.1

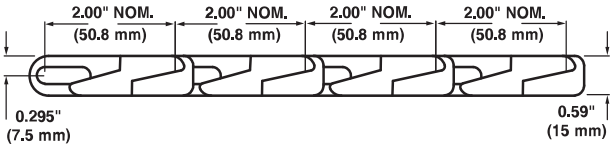
	in	mm
Pitch	2.00	50.8
Minimum Width	15	381
Maximum Width	44	1118
Width Increments	1.00	25.4
Opening Size (approximate)	0.85 × 0.88	21.6 × 22.5
Open Area (fully extended)	56%	
Minimum Open Area (1.1 turn ratio)	22%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Detailed material information is provided at the beginning of Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.1 times the belt width (measured from inside edge).
- For belt widths under 15 in (381 mm) and over 44 in (1118 mm), contact Intralox Customer Service.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside (collapsed) edge of the spiral: 9.0 in (228.6 mm).



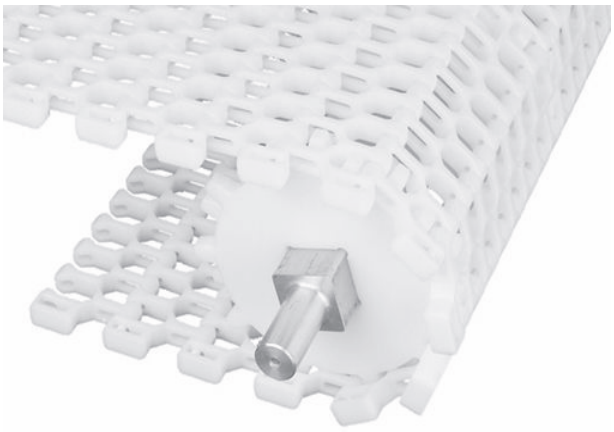
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,300	19,000	300	1,330	-50 to 200	-46 to 93	1.44	7.03
SELM	Acetal	1,100	16,100	300	1,330	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

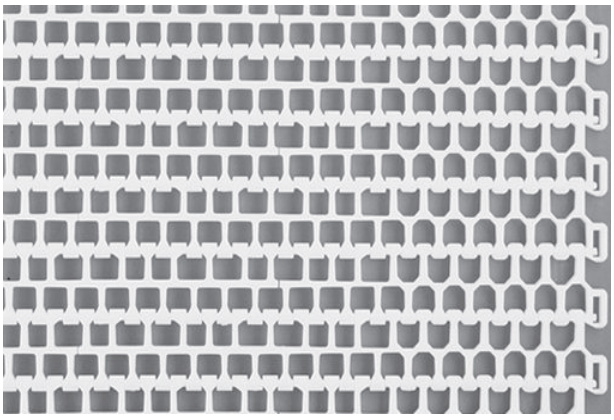
Spiral 1.6, 2.0

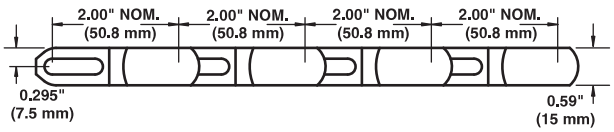
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
Open Area (fully extended)	54%	
Minimum Open Area (1.6 Turn Ratio)	40%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.





Belt Data

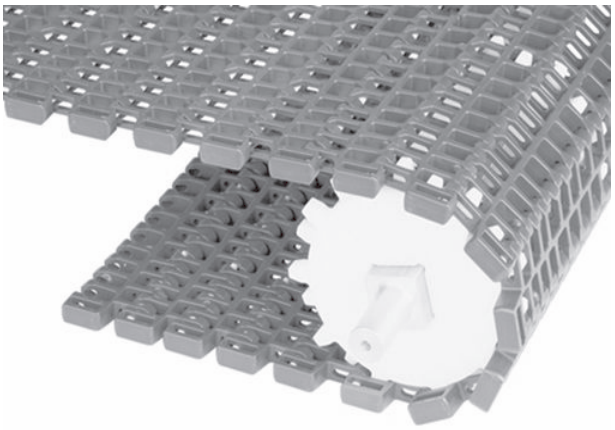
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,700	24,800	375	1,670	-50 to 200	-46 to 93	1.41	6.88
Polypropylene[b]	Acetal	1,500	21,900	300	1,330	34 to 200	1 to 93	1.01	4.93
SELM	Acetal	1,500	21,900	300	1,330	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

[b] Available in 1.6 radius only.

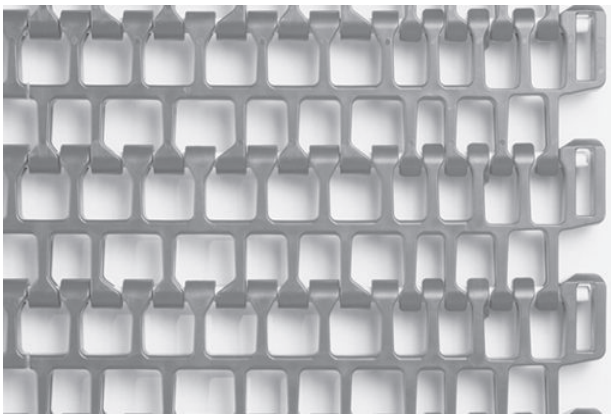
Spiral 2.2, 2.5, and 3.2

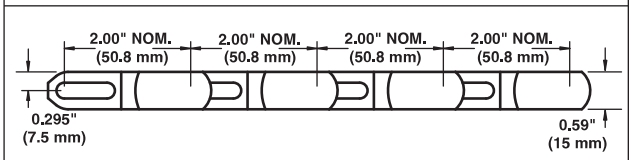
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
Open Area (fully extended)	57%	
Minimum Open Area (2.2 Turn Ratio)	32%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.





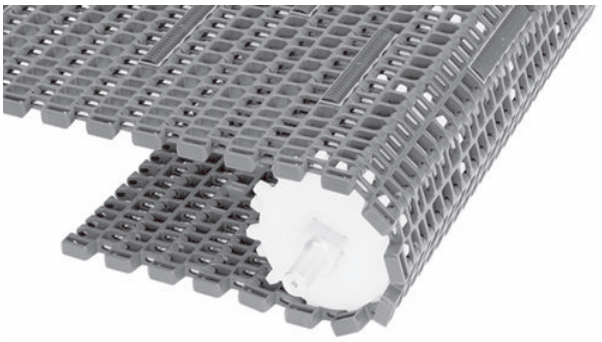
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,700	24,800	475	2,110	-50 to 200	-46 to 93	1.54	7.52
Polypropylene	Acetal	1,500	21,900	400	1,780	34 to 200	1 to 93	1.04	5.08
SELM	Acetal	1,500	21,900	375	1,670	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

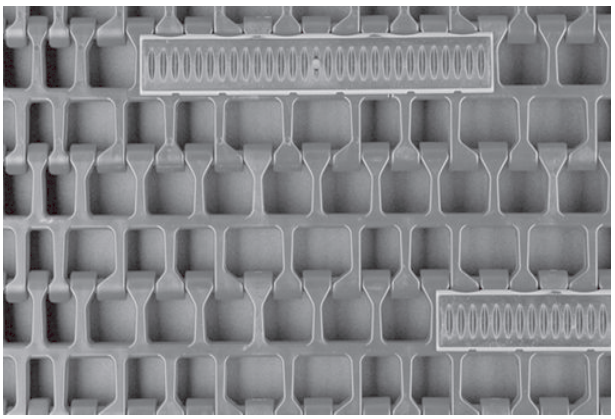
Spiral Rounded Friction Top

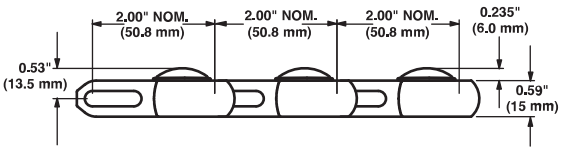
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Friction Top is available in white polypropylene with white rubber, blue polypropylene with black rubber, and natural polyethylene with white rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Contact Intralox Customer Service for minimum indent requirements.





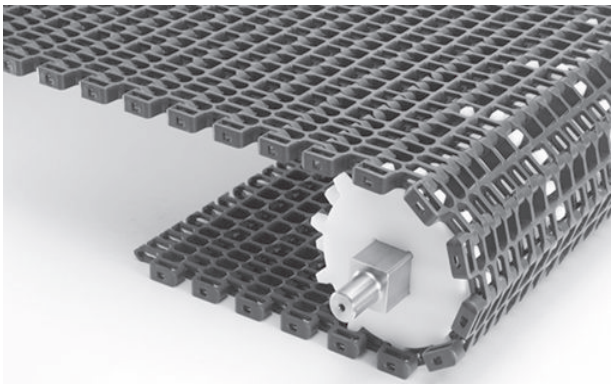
Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Spiral Belt Strength 1.6 TR (2.2, 2.5, 3.2 TR)		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Acetal	Blue/black	Acetal	1,700	24,800	375 (475)	1,670 (2,110)	34 to 150	1 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	b	c
Acetal	White/white	Acetal	1,700	24,800	375 (475)	1,670 (2,110)	35 to 150	2 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	d	c
Polypropylene	Blue/black	Acetal	1,500	21,900	300 (400)	1,330 (1,780)	34 to 150	1 to 66	1.01 (1.04)	4.93 (5.08)	55 Shore A	d	
Polypropylene	White/white	Acetal	1,500	21,900	300 (400)	1,330 (1,780)	34 to 150	1 to 66	1.01 (1.04)	4.93 (5.08)	55 Shore A	d	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] Fully compliant
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.
[d] FDA compliant with restriction: Do not use in direct contact with fatty foods.

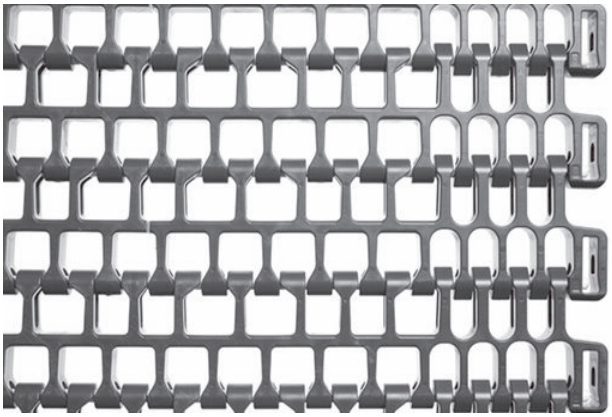
Dual Turning 2.0

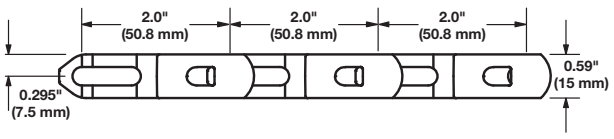
	in	mm
Pitch	2.00	50.8
Minimum Width	18	457.2
Maximum Width	60	1524
Width Increments	1.0	25.4
Opening Size (approximate)	0.94 x 0.65	23.8 x 16.5
Open Area (fully extended)	57%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Designed for standard drive and i-Drive systems.
- Rod insertion is accomplished from the edge of the belt. No special tools are required.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Turn ratio of 2.0 times belt width (radius measured at inside edge).
- Consult the Intralox Engineering Program and i-Drive Program for specific widths not listed here.





Belt Data

Base Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m		°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,500	21,900	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.54	7.52
Polypropylene	Acetal	1,500	21,900		34 to 200	1 to 93	1.04	5.08
SELM	Acetal	1,500	21,900		-50 to 200	-46 to 93	1.24	6.05

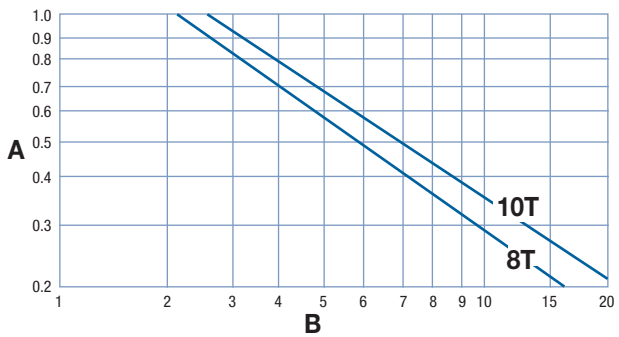
Sprocket and Support Quantity Reference[a]				
Belt Width Range[b]		Minimum Number of Sprockets Per Shaft[c]	Wearstrips	
in	mm		Carryway	Returnway
24	610	3	3	3
26	660	3	3	3
28	711	5	3	3
30	762	5	3	3
32	813	5	3	3
34	864	5	3	3
36	914	5	3	3
38	965	5	4	4
40	1,016	5	4	4
42	1,067	5	4	4
44	1,118	7	4	4
46	1,168	7	4	4
48	1,219	7	4	4
50	1,270	7	4	4
52	1,321	7	4	4
54	1,372	7	5	5
56	1,422	7	5	5
58	1,473	7	5	5
60	1,524	9	5	5
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing			Contact Intralox Customer Service for more information.	Maximum 12 in (305 mm) centerline spacing

[a] For low-tension capstan drive spirals, contact Intralox Customer Service for suggested carryway support recommendations. Support belt edges using support rollers on drive shafts. Contact Intralox Customer Service for more information.

[b] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 24 in (610 mm). If the actual width is critical, contact Intralox Customer Service.

[c] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see Retainer Rings and Center Sprocket Offset.

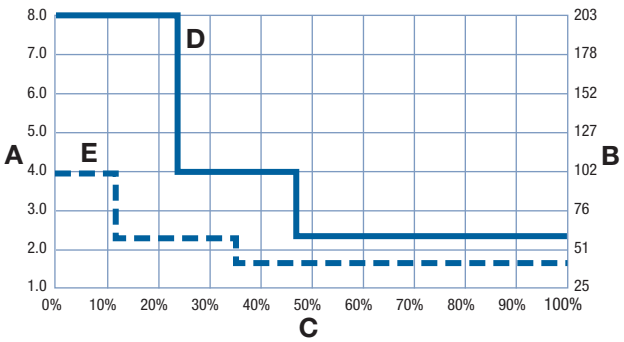
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

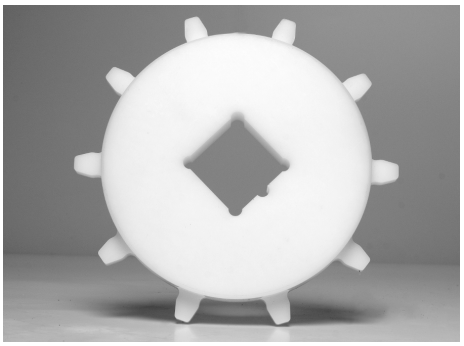
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



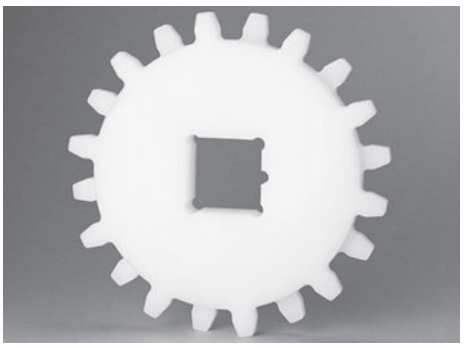
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: square bore sprockets
E dashed line: round bore sprockets

Half Tooth Sprockets[b]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.7	170	0.8	20		1-1/2		40	

[b] Contact Intralox Customer Service for preferred method of locking down sprockets and for proper sprocket timing.

Machined Sprockets[c]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.2	132	5.4	136	0.8	20	1-1/4, 1-7/16, 1-1/2, 2	1-1/2, 2-1/2		40, 60	
10 (4.89%)	6.5	165	6.7	170	0.8	20	1-1/4, 1-7/16, 1-1/2, 2	1-1/2, 2-1/2		40, 60	

[c] Contact Intralox Customer Service for preferred method of locking down sprockets and for proper sprocket timing.

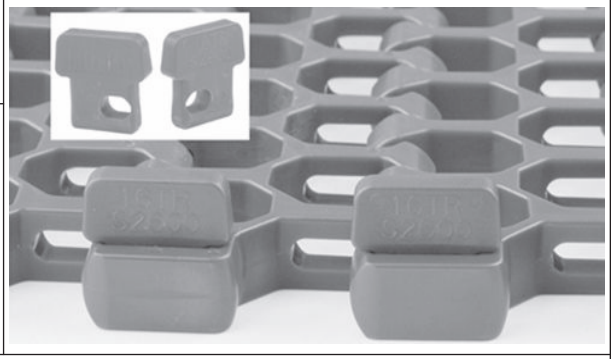
EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.7	170	0.8	20.32		2.5			

Support Wheel

Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
5.2	132	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60	
6.5	165	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60	

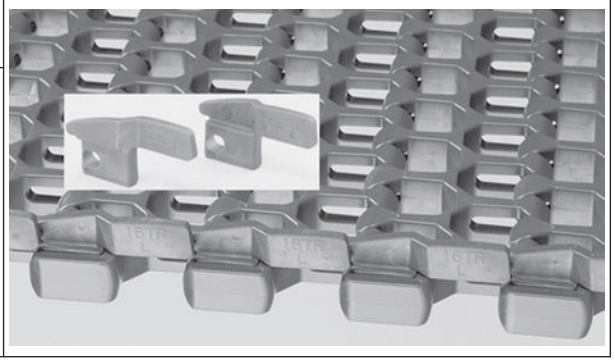
Universal Sideguards

Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, SELM	
1.00	25.4		
2.00[a]	50.8[a]		

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is uncompromised.
- Compatible turn ratios: 1.6, 2.2, 2.5, and 3.2.

[a] Only available in 1.6 TR

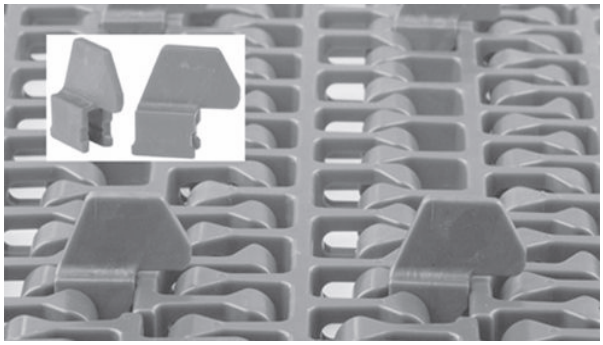
Overlapping Sideguards

Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, SELM	
1.00	25.4		

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratios for 0.50 in (12.7 mm) acetal overlapping sideguards are 1.6, 2.2, 2.5, and 3.2.
- Turn ratio for 1.00 in (25.4 mm) overlapping sideguards is 1.6 only.

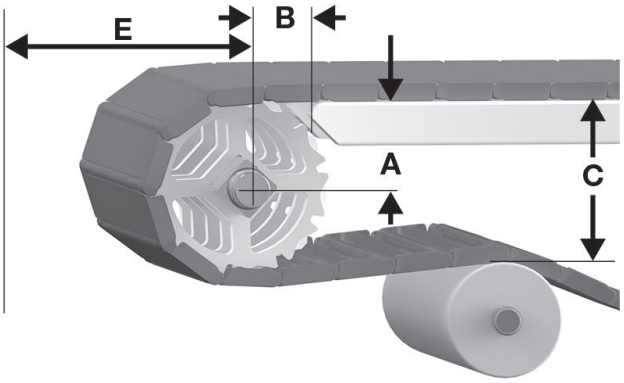
Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19.0	Acetal, polypropylene	

- Assembly does not require finger cuts on the modules, so the belt beam strength is uncompromised.
- For 1.6 turn radius modules, lane dividers can be placed on indents of 1.5 in(38.1 mm), 2.5 in (63.5 mm), 3.5 in (88.9 mm), 4.5 in (114 mm), 11.5 in (292 mm), and up, in 1.00 in (25.4 mm) increments.
- For 2.2 turn radius modules, lane dividers can be placed on indents of 4.5 in (114 mm) and up in 1.00 in (25.4 mm) increments.



CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 87: A, B, C, and E drive dimensions

S2600 Conveyor Frame Dimensions												
Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		Number of Teeth	Range (Bottom to Top)[a]							
in	mm	in	mm		in	mm	in	mm	in	mm	in	mm
Spiral 1.0, 1.1, 1.6, 2.0, 2.2, 2.5, 3.2												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91
Spiral Rounded Friction Top												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.46	139	3.21	82
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.71	170	3.83	97

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2600 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0

HOLD DOWN WEARSTRIPS

The use of hold down wearstrips along both belt edges over the full carryway is recommended, except in heavily loaded or high-speed applications.

- For information about Intralox hold down wearstrips, see Custom Wearstrips.
- For information about conveyor design for hold down wearstrips, see Hold Down Wearstrips in the Design Guidelines chapter.

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

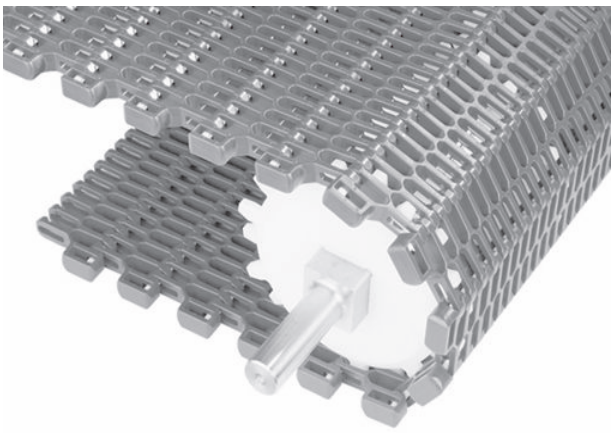
DESIGN GUIDE SUMMARY

For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

- The minimum turn radius for S2600 is the turn radius times the belt width, measured from the inside edge.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths (down to 1.5 times the belt width) require a gravity take-up to avoid sprocket wear and tracking problems. See Take-Ups.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller can be used in place of sprockets.

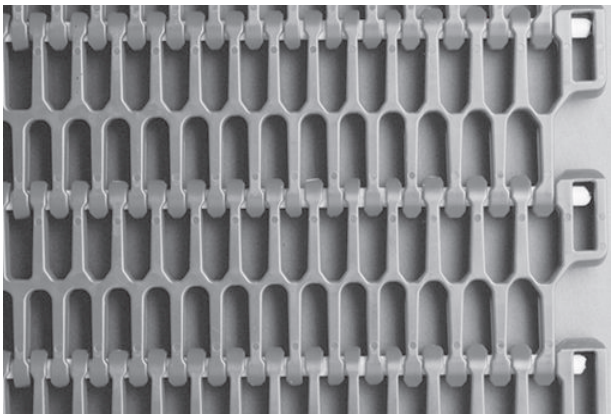
Spiral 1.6

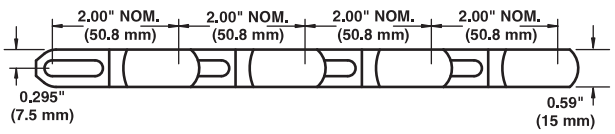
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 × 0.64	9.52 × 16.5
Open Area (fully extended)	45%	
Minimum Open Area (1.6 TR)	27%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).





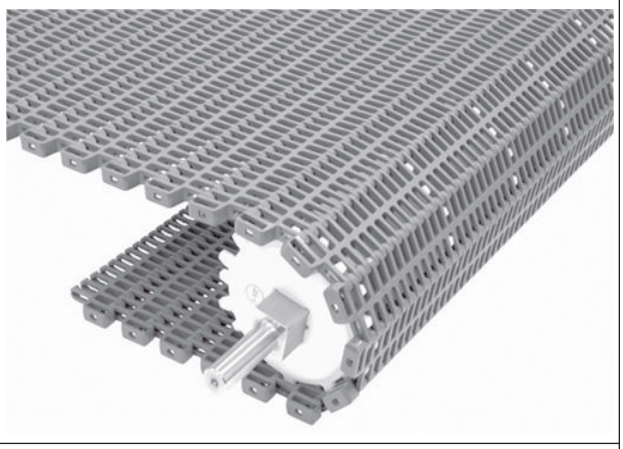
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	2,000	29,200	375	1,670	-50 to 200	-46 to 93	1.74	8.50
SELM	Acetal	1,060	15,500	300	1,330	-50 to 200	-46 to 93	1.36	6.64

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

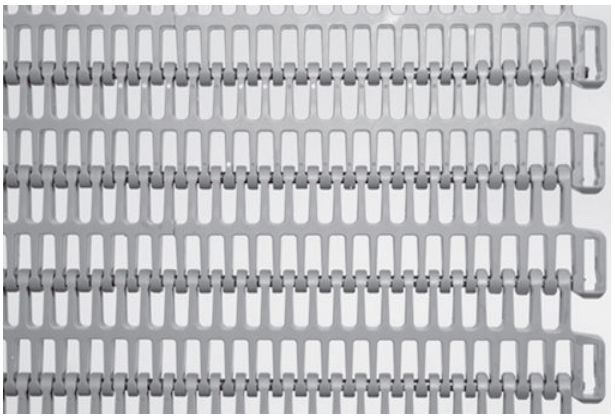
Spiral 2.2

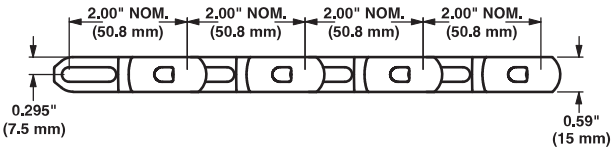
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.52 x 16.5
Open Area (fully extended)	48%	
Minimum Open Area (2.2 TR)	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).





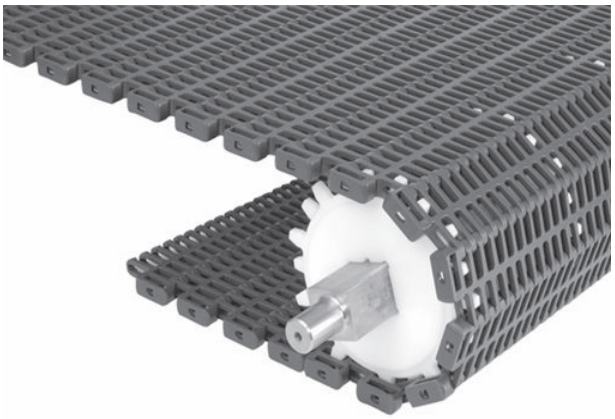
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,700	24,800	375	1,670	-50 to 200	-46 to 93	1.85	9.03
Polypropylene	Acetal	1,500	21,900	300	1,330	34 to 200	1 to 93	1.26	6.15
SELM	Acetal	1,060	15,500	300	1,330	-50 to 200	-46 to 93	1.44	7.03

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

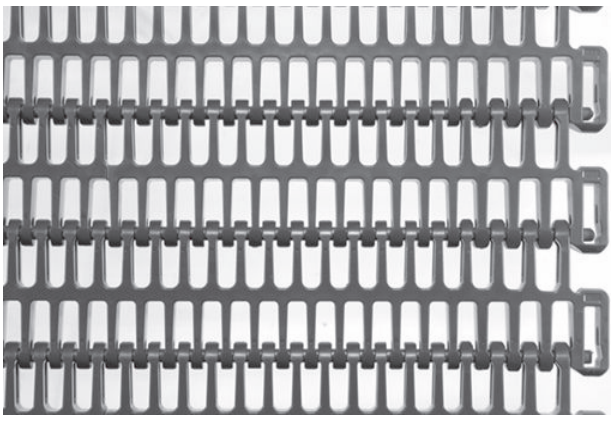
Spiral 2.7

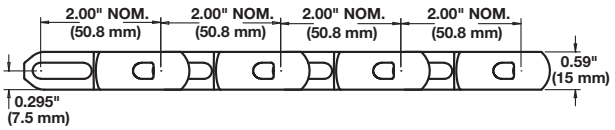
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.5 x 16.5
Open Area (fully extended)	48%	
Minimum Open Area (2.7 TR)	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 2.7 times the belt width (measured from inside edge).





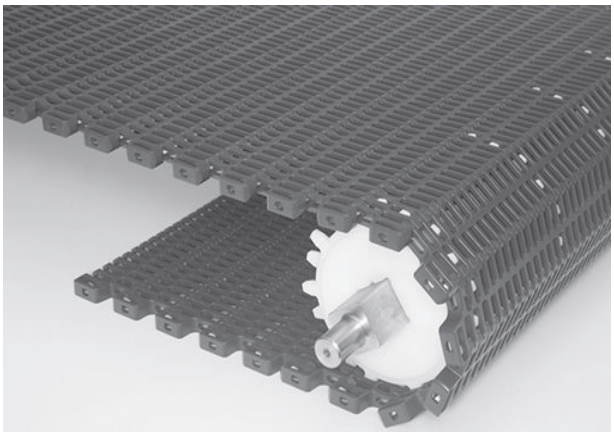
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,700	24,800	375	1,670	-50 to 200	-46 to 93	1.86	9.08
Polypropylene	Acetal	1,500	21,900	300	1,330	34 to 200	1 to 93	1.26	6.15
SELM	Acetal	1,060	15,500	300	1,330	-50 to 200	-46 to 93	1.44	7.03

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

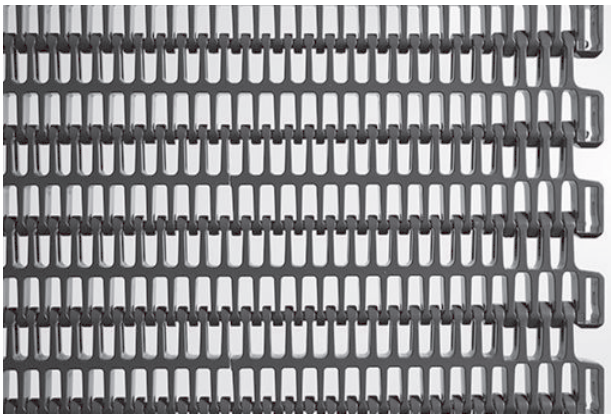
Dual Turning 2.0

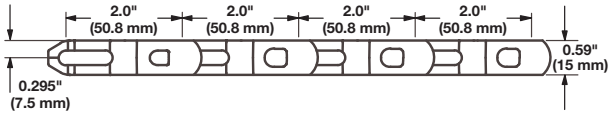
	in	mm
Pitch	2.00	50.8
Minimum Width (See *Product Notes*.)	12	304.8
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.5 x 16.5
Open Area (fully extended, see *Product Notes*)	44%	
Minimum Open Area (2.0 TR)	23%	
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Open area calculations for S2700 Dual Turning 2.0 are unique to this style, and are not directly comparable to other S2700 styles.
- Rods are inserted from the edge of the belt. No special tools are required.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for standard drive and i-Drive systems.
- Turn ratio of 2.0 times belt width (measured from inside edge).
- When considering belt widths under 12 in (305 mm), contact Intralox Customer Service
- Consult the *Intralox Engineering Program* and *I-Drive Program* for specific widths not listed here.
- Contact Intralox Customer Service for preferred run direction on spiral applications.





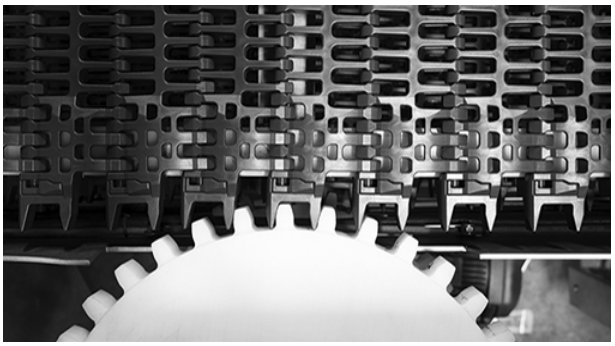
Belt Data

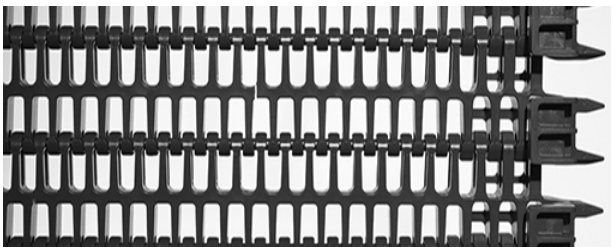
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength lbf/ft	Straight Belt Strength N/m	Curved Belt Strength	Temperature Range (continuous)[a] °F	Temperature Range (continuous)[a] °C	Belt Mass lb/ft²	Belt Mass kg/m²
Acetal	Acetal	1,700	24,800	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.84	8.98
Acetal	Nylon	1,700	24,800		-50 to 200	-46 to 93	1.81	8.84
SELM	Acetal	1,060	15,500		-50 to 200	-46 to 93	1.42	6.93
SELM	Nylon	1,060	15,500		-50 to 212	-46 to 100	1.40	6.84

[a] Belt functions mechanically up to 240°F (116°C). Belt used in the temperature window of 212°F to 240°F (100°C to 116°C) is not FDA-compliant.

Side Drive

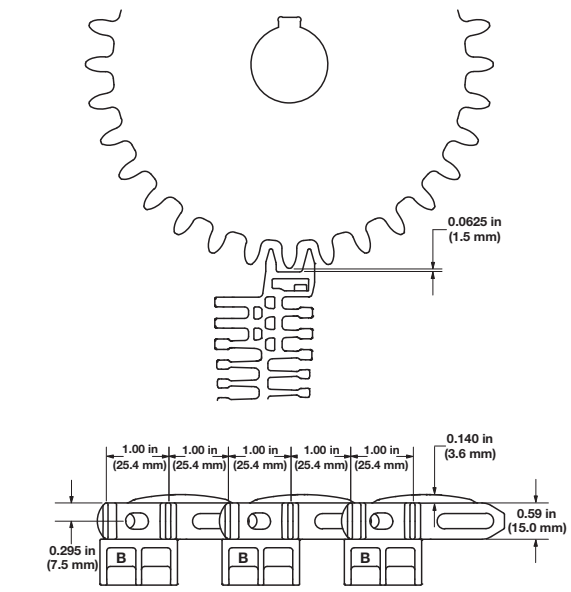
	in	mm
Module Pitch	2.0	50.8
Drive Tooth Pitch	1.0	25.4
Minimum Width	10	254.0
Maximum Width	42	1066.8
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.5 x 16.5
Open Area	44%	
Hinge Style	Open	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in live-drum spiral conveyor systems.**
- Teeth along the belt edge drive the belt and allow for atypical configurations and long conveyors without transfer points.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- A S2700 Spiral 1.6 module can be used on the inner edge to achieve a smaller turn ratio, but only for single-direction curve applications.
- The Intralox Side Drive Program can help predict the strength requirements of most side-driven applications, ensuring that the belt is strong enough for the application. Contact Intralox Customer Service for more information.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- The Z-dimension is the distance between the edge of the belt (not including drive teeth) and the outer diameter of the sprocket. Maintain this dimension to ensure proper engagement of the belt and sprocket.
- S2700 lane dividers can be used with this belt, but sideguards cannot be used.
- Designed for side-driven applications with a minimum turn radius of 2.0 times the belt width (measured from inside edge to outer edge, not including drive teeth).



Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength[a]		Temperature Range (continuous)		Belt Mass		Agency Acceptability	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²	FDA (USA)	EU MC[b]
Acetal	Acetal	175	2,550	150	667	40 to 200	4 to 93	2.17	10.6	[c]	[c]

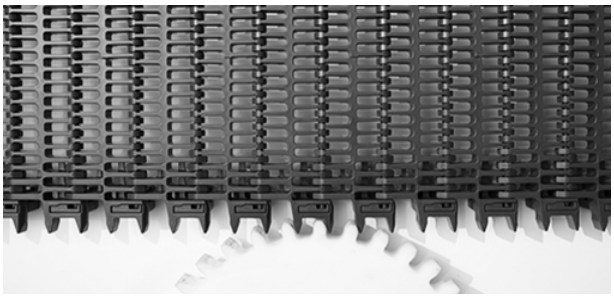
[a] Published curved belt strengths and their method of calculation vary among belt manufacturers. Contact Intralox Customer Service for accurate comparison of curved belt strengths.

[b] European Migration Certificate providing approval for food contact according to EU Directive 2002/72/EC and all its amendments to date.

[c] Fully compliant.

Side Drive V2

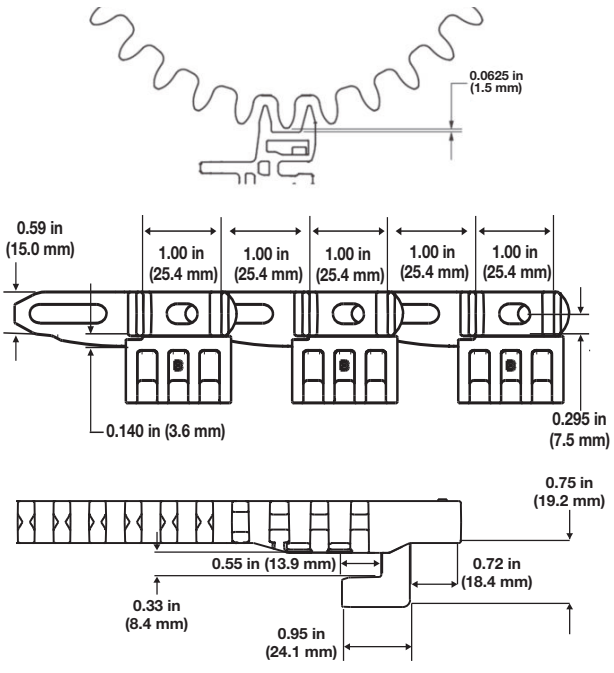
	in	mm
Module Pitch	2.0	50.8
Pitch	1.0	25.4
Minimum Width	10	254.0
Maximum Width	42	1067
Width Increments	0.50	12.7
Opening Size (approximately)	0.38 x 0.64	9.5 x 16.5
Open Area	44%	
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in live-drum spiral conveyor systems.**
- Flat belt surface allows for easier product transfer over the belt end.
- Teeth along the belt edge drive the belt and allow for atypical configurations and long conveyors without transfer points.
- The hold down tab location enables full use of the entire belt width.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for side-driven applications with a minimum turn radius of 2.0 times the belt width (measured from inside edge to outer edge, not including drive teeth).
- The Intralox Side Drive Program can help predict the strength requirements of most side-driven applications, ensuring that the belt is strong enough for the application. Contact Intralox Customer Service for more information.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- The distance between the belt edge (not including drive teeth) and the sprocket outer diameter is critical. Maintain this dimension to ensure proper sprocket engagement.
- For single-direction curve applications, a S2700 Spiral 1.6 module can be used on the inner edge to achieve a smaller turn ratio.
- S2700 lane dividers can be used with this belt, but sideguards cannot be used.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Curved Belt Strength		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	175	2,550	150	667	40 to 200	4 to 93	2.17	10.59

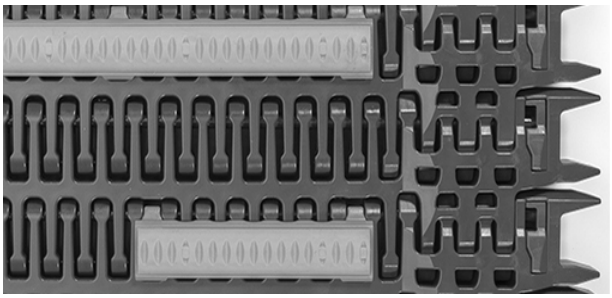
Spiral Rounded Friction Top

	in	mm
Module Pitch	2	50.8
Minimum Width	Varies according to base belt	
Maximum Width		
Width Increments	0.50	12.7
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in blue polypropylene (PP) and blue acetal with blue rubber or blue PP and blue acetal Mini Rib only.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Compatible with S2700 Side Drive, S2700 Dual Turning 2.0, and S2700 Spiral 1.6, 2.2, and 2.7.
- For minimum indent requirements, contact Intralox Customer Service.



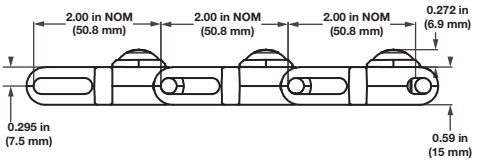


Figure 88: Module with Friction Top insert

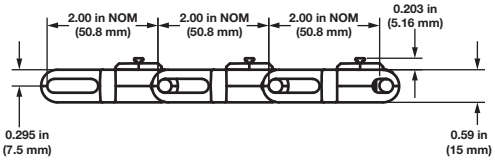


Figure 89: Module with Mini Rib insert

Belt Data

Base Belt Material	Accessory Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength[a]		Spiral Belt Strength [a]		Temperature Range (continuous)		Belt Mass [a]		Friction Top Hardness	Agency Acceptability	
			lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Acetal	Friction Top insert: blue PP base with rubber overlay	Acetal	175	2,550	150	667	-50 to 200	-46 to 93	2.17	10.59	54 Shore A	c	d
Acetal	Mini Rib insert: blue acetal	Acetal	175	2,550	150	667	-50 to 200	-46 to 93	2.17	10.59	–	c	d

[a] Provided values are for Side Drive base belts. Values for other compatible base belts are provided on the product page for each belt. Contact Intralox Customer Service for more information.

[b] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[c] FDA Compliant with restriction: Do not use in direct contact with fatty foods.

[d] EU Compliant with restriction: Do not use in direct contact with fatty foods.

Sprocket and Support Quantity Reference[a]				
Belt Width Range[b]		Minimum Number of Sprockets Per Shaft[c]	Wearstrips[d]	
in	mm		Carryway	Returnway
24	610	5	2	2
26	660	5	2	2
28	711	5	2	2
30	762	5	3	2
32	813	5	3	2
34	864	7	3	2
36	914	7	3	2
38	965	7	3	2
40	1,016	7	3	2
42	1,067	7	3	2
44	1,118	7	3	2
46	1,168	9	3	2
48	1,219	9	3	2
50	1,270	9	3	2
52	1,321	9	3	2
54	1,372	9	3	2
56	1,422	9	4	3
58	1,473	11	4	3
60	1,524	11	4	3
For other widths, use an odd number of sprockets at Maximum 8 in (203 mm) centerline spacing.			Maximum 25 in (635 mm) centerline spacing	Maximum 30 in (762 mm) centerline spacing

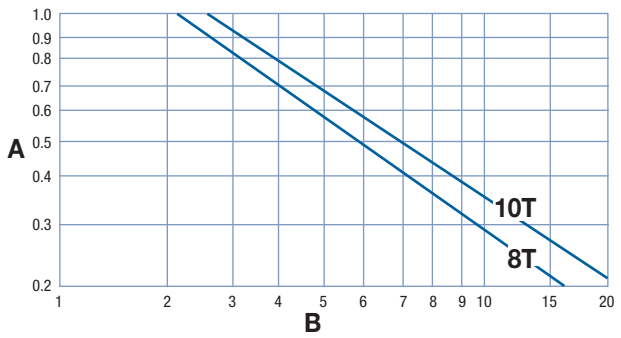
[a] For low-tension capstan drive spirals, contact Intralox Customer Service for suggested carryway support recommendations. Support belt edges using support rollers on drive shafts. Contact Intralox Customer Service for more information.

[b] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.50 in (12.7 mm) increments beginning with minimum width of 24 in (610 mm). If the actual width is critical, contact Intralox Customer Service.

[c] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see Retainer Rings and Center Sprocket Offset.

[d] Carryway spacing depends on a distributed 2 lb/ft² at 65°F (18.3°C) for acetal belts with acetal rods with a 2 in (50.8 mm) and 4 in (101.6 mm) overhang.

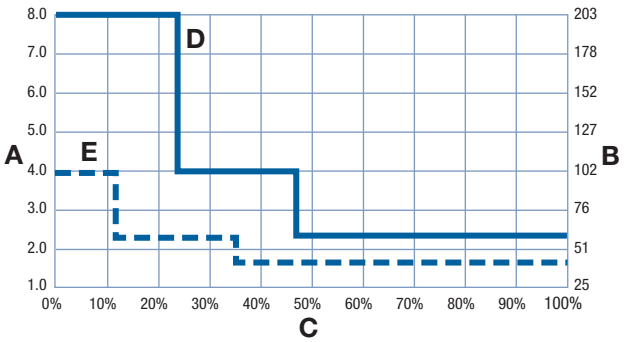
Strength Factor



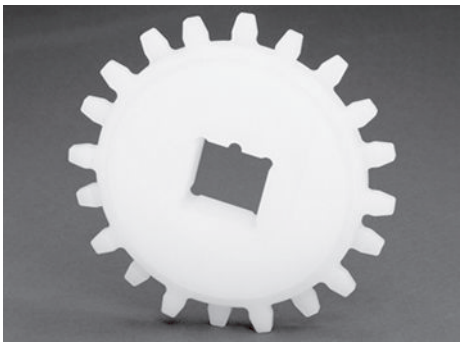
A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized

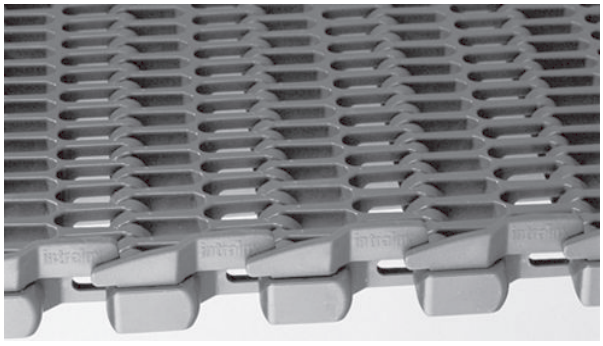


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: square bore sprockets
E dashed line: round bore sprockets

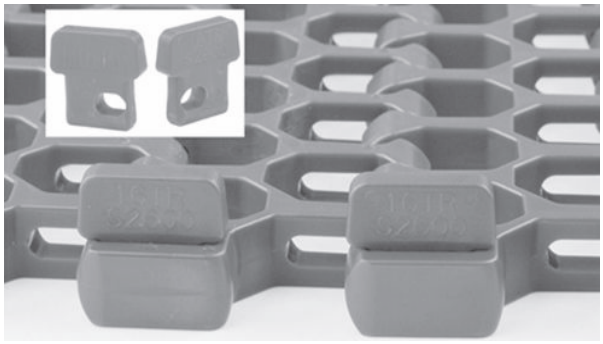
Acetal Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.2	132	5.4	136	0.8	20.32	1-1/4, 1-7/16, 2	1-1/2, 2-1/2		60	
10 (4.85%)	6.5	165	6.7	170	0.8	20.32	1-1/4, 1-7/16, 2	1-1/2, 2-1/2		40, 60	

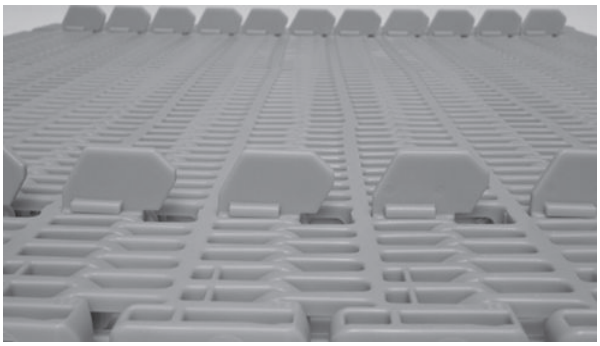
[a] Contact Intralox Customer Service for preferred method of locking down sprockets and proper sprocket timing.

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
5.2	132	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60	
6.5	165	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60	

Overlapping Sideguards			
Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, SELM	
1.00	25.4		

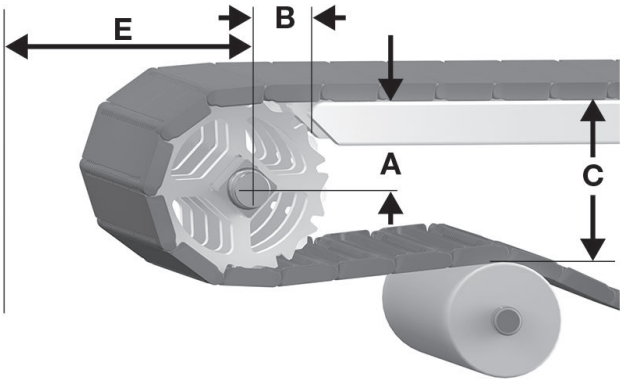
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) acetal overlapping sideguards in acetal is 1.6.
- The turn ratio for 1.00 in (25.4 mm) overlapping sideguard is 1.6 only.

Universal Sideguards			
Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, SELM	
1.00	25.4		
2.00[a]	50.8[a]		
• Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent. • Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.			
[a] Only available in 1.6 TR			

Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19	Acetal, SELM	
2.00	50.8		

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 90: A, B, C, and E drive dimensions

S2700 Conveyor Frame Dimensions												
Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		Number of Teeth	Range (bottom to top)[a]							
in	mm	in	mm		in	mm	in	mm	in	mm	in	mm
Spiral 1.6, 2.2, 2.7												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91
Spiral Rounded Friction Top												
5.2	132	5.4	137	8	2.12–2.32	54–59	2.25	57	5.50	140	3.24	82
6.5	165	6.7	170	10	2.78–2.94	71–75	2.54	65	6.74	171	3.87	98

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2700 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0

HOLD DOWN WEARSTRIPS

The use of hold down wearstrips along both belt edges over the full carryway is recommended, except in heavily loaded or high-speed applications.

- For information about Intralox hold down wearstrips, see Custom Wearstrips.
- For information about conveyor design for hold down wearstrips, see Hold Down Wearstrips in the Design Guidelines chapter.

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

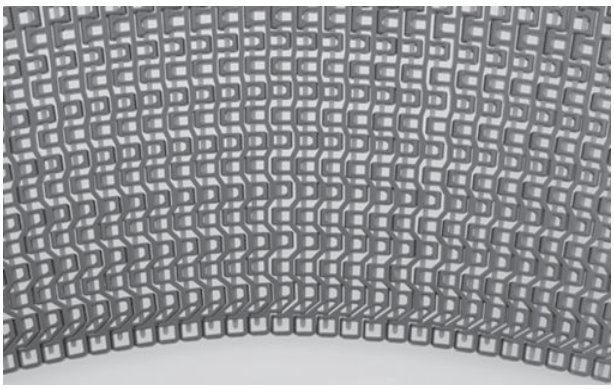
DESIGN GUIDE SUMMARY

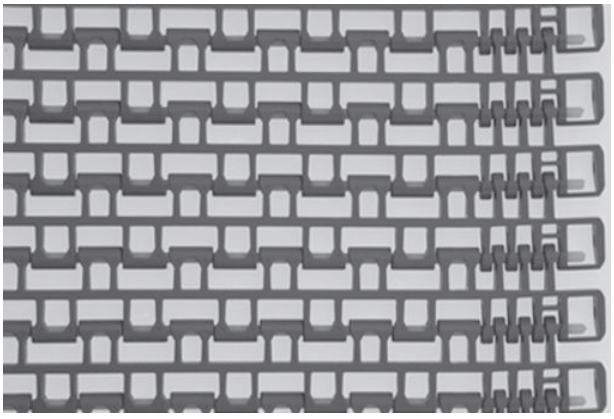
For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

- The minimum turn radius for the standard edge S2700 is 2.2 times the belt width, measured from the inside edge. For the tight turning style, the minimum turn radius is 1.7 times the belt width.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths (down to 1.5 times the belt width) require a gravity take-up to avoid sprocket wear and tracking problems. See Take-Ups.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller can be used in place of sprockets.

Spiral GTech 1.6

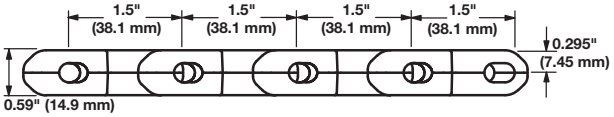
	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Belt openings pass straight through the belt to simplify cleaning.
- Lightweight, relatively strong belt with smooth surface grid.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



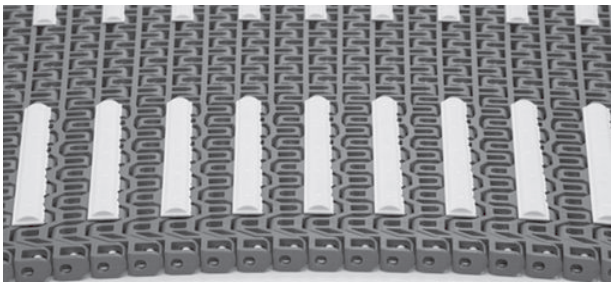
Belt Data

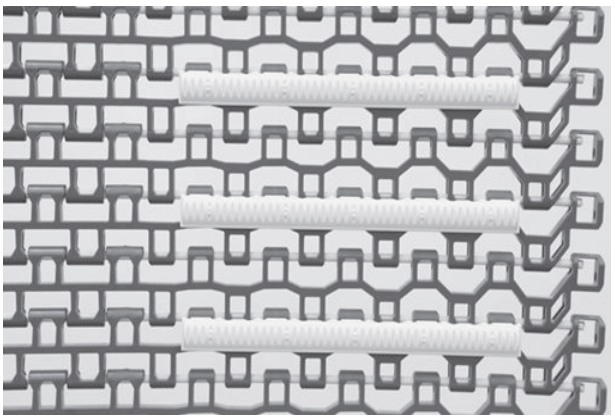
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	7,300	375	1,670	-50 to 200	-46 to 93	1.28	6.25

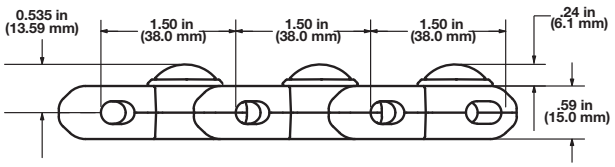
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please contact Intralox Customer Service for accurate comparison of spiral belt strengths.

Spiral GTech Rounded Friction Top

	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Hinge Style	Open	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Available in white polypropylene with white rubber or blue polypropylene with high-performance blue rubber.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.
- Must have a 2.0 in (50.8 mm) minimum gap between friction inserts for correct sprocket placement.

Belt Data

Base Belt Material	Base/Friction Top	Default Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass		Friction Top Hardness	Agency Acceptability[b]	
			lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[c]
Acetal	White/white	Acetal	1,700	24,800	375 (475)	1,670 (2,110)	34 to 150	1 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	d	e
Acetal	High-Performance FT blue/blue	Acetal	1,700	24,800	375 (475)	1,670 (2,110)	34 to 212	1 to 100	1.44 (1.54)	7.03 (7.52)	59 Shore A	d	e

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Contact an Intralox spiral engineer for accurate comparison of spiral belt strengths.

[b] Before Intralox developed S2800, USDA-FSIS Meat and Poultry discontinued publishing a list of acceptable new products designed for food contact. As of the printing of this manual, third-party approvals are being investigated, but are not yet sanctioned by the USDA-FSIS.

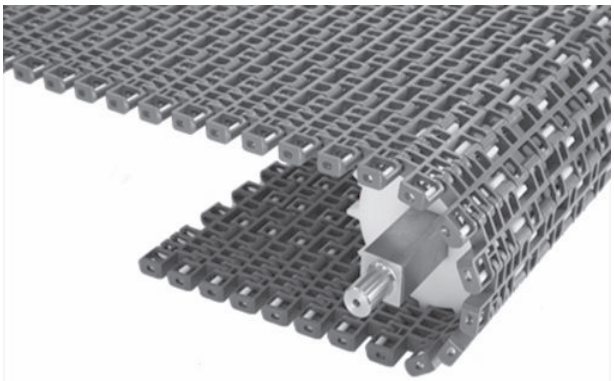
[c] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

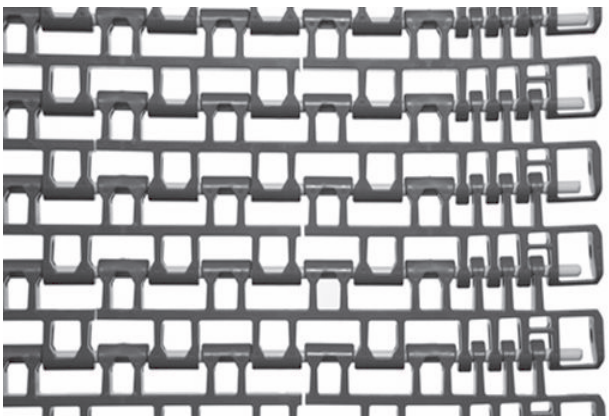
[d] FDA compliant with restriction: Do not use in direct contact with fatty foods.

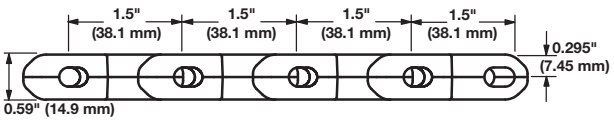
[e] EU compliant with restriction: Do not use in direct contact with fatty foods.

Spiral GTech 2.2 and 3.2

	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Open hinge and slot design simplifies cleaning.
- Lightweight belt with extreme beam strength prevents bowing and buckling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

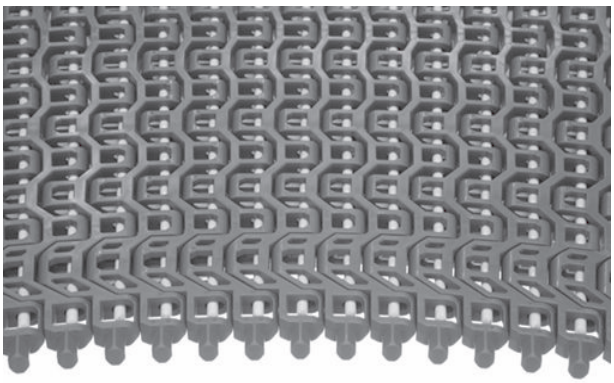
Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	7,300	375	1,670	-50 to 200	-46 to 93	1.27	6.3

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

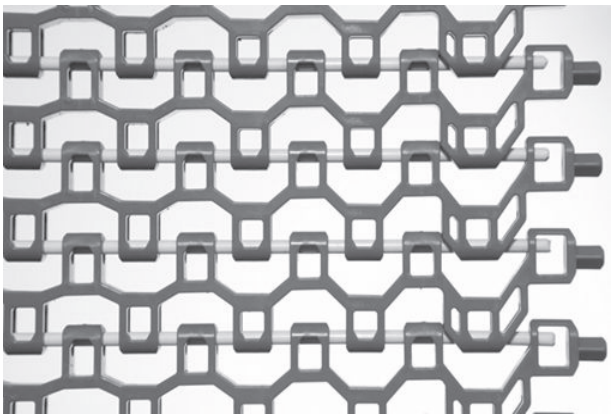
Spiral DirectDrive™

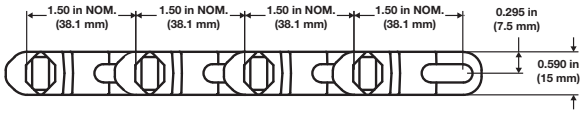
	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	7,300	375	1,670	-50 to 200	-46 to 93	1.27	6.2
Detectable MX	Detectable MX	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.85	9.03

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Contact Intralox Customer Service for accurate comparison of spiral belt strengths.

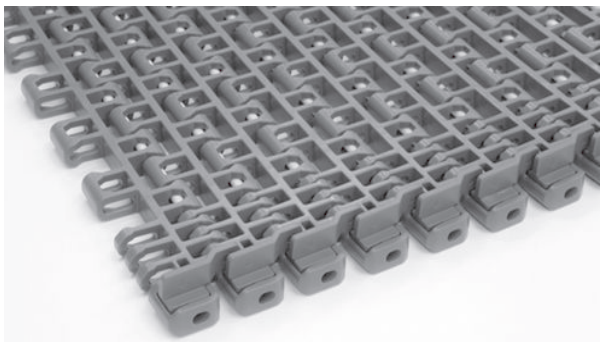
Acetal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (1.92%)	6.2	157	6.4	163	1.2	30.5	1-7/16, 1-1/2, 2	1.5, 2.5		40, 60	

Support Wheel

Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

Overlapping Sideguards

Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal	
1.00	25.4	Acetal	

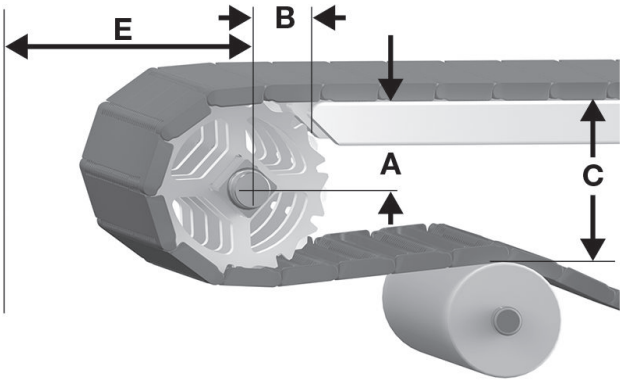
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) overlapping sideguards is 1.6.

Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19	Acetal, SELM	

- Assembly does not require finger cuts on the modules, so the belt beam strength is not compromised.
- Lane dividers can be spaced 2 in (50.8 mm) apart along the width of the belt.
- Minimum indent requirements: contact Intralox Customer Service.

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 91: A, B, C, and E drive dimensions

S2800 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Spiral GTech 1.6, 2.2 and 3.2 and DirectDrive										
6.2	157	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89
Spiral GTech Rounded Friction Top										
6.2	157	13	2.75-2.84	70-72	2.51	64	6.51	165	3.74	95

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2800 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
6.2	157	13	0.091	2.3

HOLD DOWN WEARSTRIPS

The use of hold down wearstrips along both belt edges over the full carryway is recommended, except in heavily loaded or high-speed applications.

- For information about Intralox hold down wearstrips, see Custom Wearstrips.
- For information about conveyor design for hold down wearstrips, see Hold Down Wearstrips in the Design Guidelines chapter.

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

- The minimum turn radius for the S2800 standard edge is 1.6 times the belt width, measured from the inside edge.
- The minimum required straight run between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run leading to the drive shaft is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths, down to 1.5 times the belt width, require a gravity take-up to avoid sprocket wear and tracking problems. For more information, see Take-Ups.
- The minimum length of the first straight run immediately after the idle shaft is 1.5 times the belt width. When shorter lengths are required, down to 1.0 × the width, an idle roller can be used in place of sprockets.

DirectDrive™ Stacker

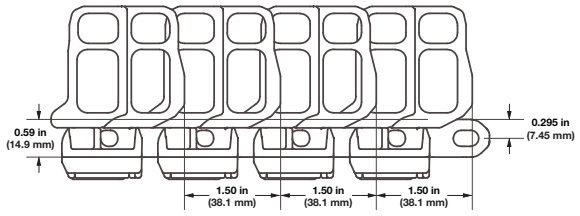
	in	mm
Pitch	1.5	38.1
Minimum Width	12	304.8
Width Increments	2.00	50.8
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, strong belt with smooth surface grid for good product release.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sideplates are permanently installed and cannot be replaced.
- Designed for stacker applications using patented DirectDrive technology.
- Tier spacing: available in 60 mm, 80 mm, or 100 mm.
- Contact Intralox Customer Service for preferred run direction on spiral applications.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)[b]		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.96	9.57

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

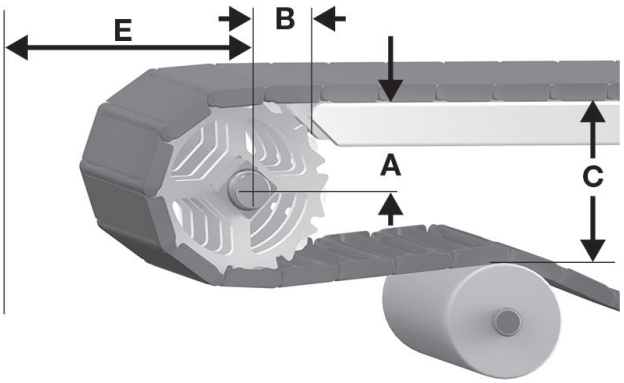
[b] Sideflexing applications must not exceed 180°F (82°C).

Acetal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (1.92%)	6.2	157	6.4	163	1.2	30.5	2, 1-7/16	1.5, 2.5		40, 60	

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 92: A, B, C, and E drive dimensions

S2850 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
DirectDrive Stacker										
6.2	157	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

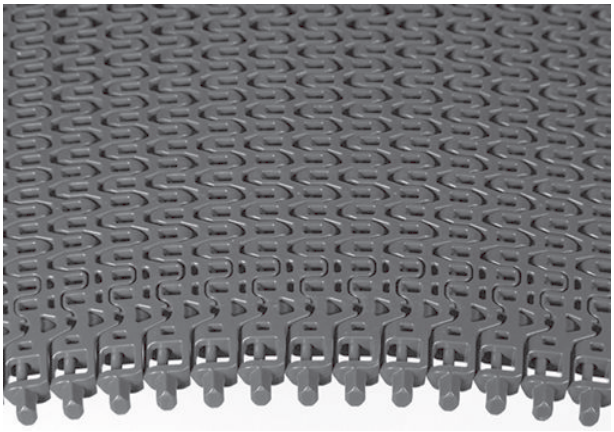
DEAD PLATE GAP

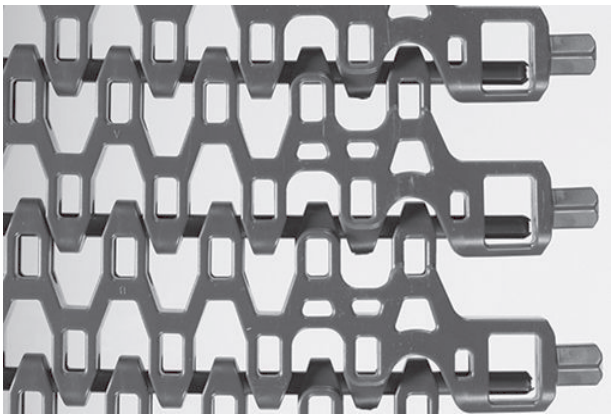
Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

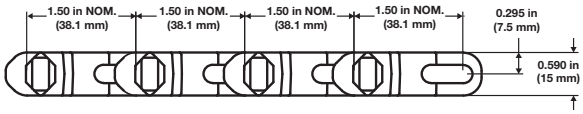
S2850 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.2	157	13	0.091	2.3

Spiral DirectDrive™ (DD)

	in	mm
Pitch	1.5	38.1
Minimum Width (See *Product Notes*.)	13.5	343
Maximum Width (See *Product Notes*.)	61.7	1567
Width Increments	1.0	25.4
Opening Size (approximate)	0.52 x 0.39	13 x 10
Open Area (fully extended)	44%	
Minimum Open Area (collapsed)	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Width dimension includes tooth protrusion.
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

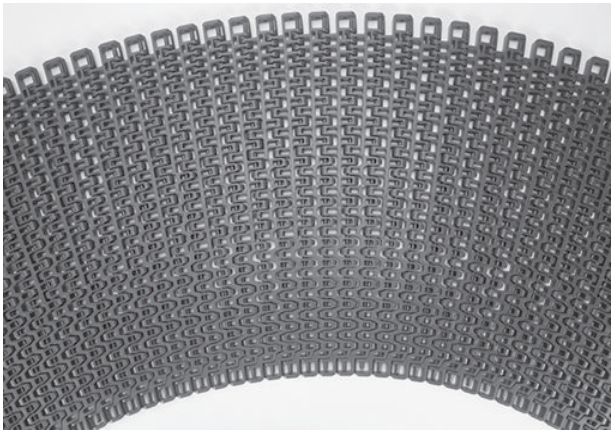
Belt Data

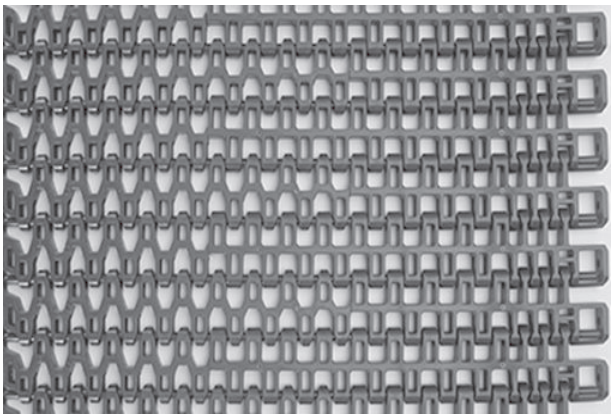
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lbf/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	7,300	375	1,670	-50 to 200	-46 to 93	1.46	7.13
Detectable MX	Detectable MX	1,600	23,400	475	2,110	-50 to 200	-46 to 93	2.08	10.16

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

Spiral 1.6

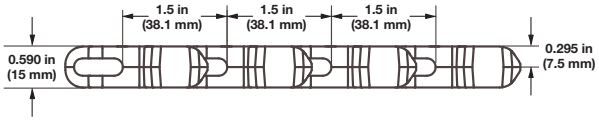
	in	mm
Pitch	1.5	38.1
Minimum Width (See *Product Notes*.)	13.5	343
Maximum Width (See *Product Notes*.)	61.7	1567
Width Increments	0.5	12.7
Opening Size (approximate)	0.52 x 0.39	13 x 10
Open Area (fully extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Cage-friendly inside edge and frame-friendly outside edge
- Enhanced beam stiffness.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Eliminates product contamination from metal-wear debris.
- Enables simple, quick repairs and changeovers.
- Designed for friction drive, capstan drive spiral applications with a minimum turn radius of 1.6 times the belt width (measured from the inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



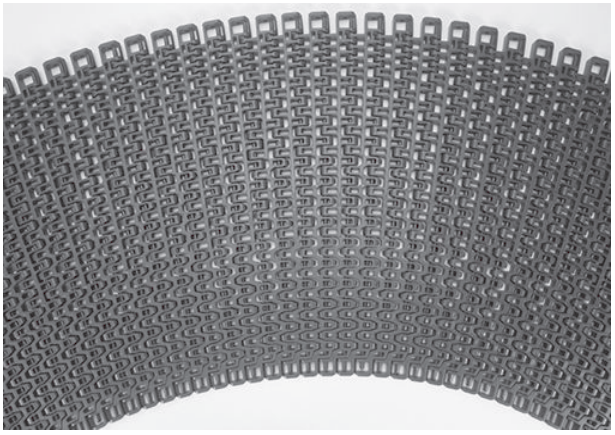
Belt Data

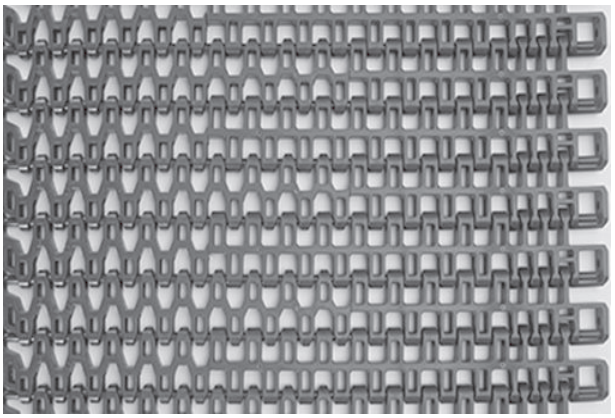
Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	7,300	375	1,670	-50 to 200	-46 to 93	1.46	7.13

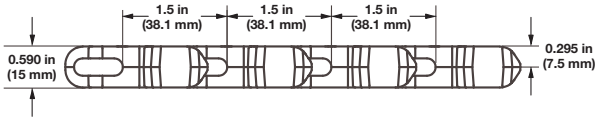
[a] Published curved belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of curve belt strengths.

Spiral 2.2

	in	mm
Pitch	1.5	38.1
Minimum Width (See *Product Notes*.)	13.5	343
Maximum Width (See *Product Notes*.)	61.7	1567
Width Increments	0.5	12.7
Opening Size (approximate)	0.52 x 0.39	13 x 10
Open Area (fully extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Cage-friendly inside edge and frame-friendly outside edge.
- Enhanced beam stiffness.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Eliminates product contamination from metal-wear debris.
- Enables simple, quick repairs and changeovers.
- Designed for friction drive, capstan drive spiral applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	7,300	375	1,670	-50 to 200	-46 to 93	1.46	7.13

[a] Published curved belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of curve belt strengths.

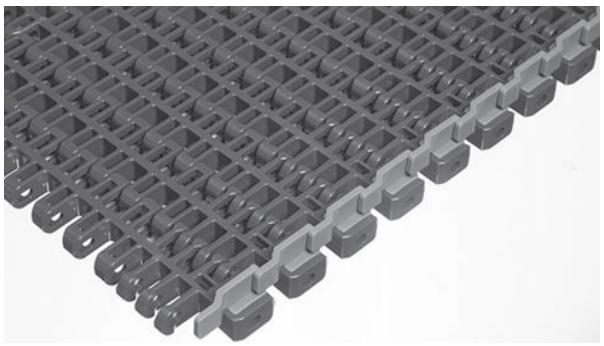
Acetal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.97%)	6.2	157	6.4	163	1.2	30.5	1-7/16, 2	1.5, 2.5		40, 60	

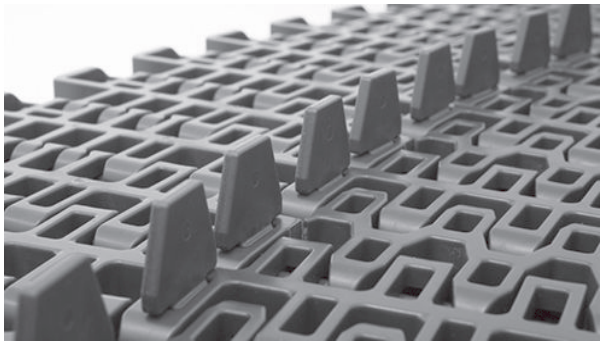
Support Wheel

Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

Overlapping Sideguards

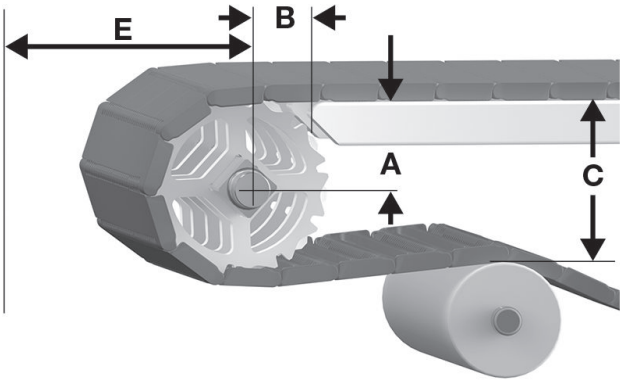
Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, Detectable MX	
1.00	25.4	Acetal, Detectable MX	

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) overlapping sideguards 1.6.

Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19	Acetal, Detectable MX, SELM	

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 93: A, B, C, and E drive dimensions

S2900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
Spiral DirectDrive										
6.2	157	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2900 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
6.2	157	13	0.091	2.3

HOLD DOWN RAILS AND WEARSTRIPS

The use of hold down wearstrips along both belt edges over the full carryway is recommended, except in heavily loaded or high-speed applications.

- For information about Intralox hold down wearstrips, see Custom Wearstrips.
- For information about conveyor design for hold down wearstrips, see Hold Down Wearstrips in the Design Guidelines chapter.

BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For typical layout configurations, see Radius Conveyors in the Design Guidelines chapter.

- The minimum turn radius for the S2900 standard edge is 1.6 times the belt width, measured from the inside edge.
- The minimum required straight run between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run leading to the drive shaft is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths, down to 1.5 times the belt width, require a gravity take-up to avoid sprocket wear and tracking problems. For more information, see Take-Ups.
- The minimum length of the first straight run immediately after the idle shaft is 1.5 times the belt width. When shorter lengths are required, down to 1.0 × the width, an idle roller can be used in place of sprockets.

DirectDrive™ Stacker

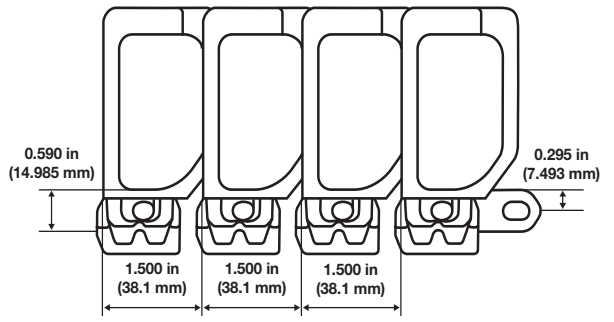
	in	mm
Pitch	1.5	38.1
Minimum Width	12	304.8
Width Increments	1.00	25.4
Opening Size (approximate)	0.52 x 0.39	13.0 x 10.0
Open Area (fully extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, strong belt with smooth surface grid for good product release.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Each belt material has a default rod material. Other rod materials are available. Intralox can help identify the best belt and rod material combination for your application.
- Detailed material information is provided at the beginning of Product Line.
- Sideplates are permanently installed and cannot be replaced.
- Designed for stacker applications using patented DirectDrive technology.
- Tier spacing: available in 60 mm, 80 mm, or 100 mm.
- Contact Intralox Customer Service for preferred run direction on spiral applications.





Belt Data

Belt Material	Default Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)[b]		Belt Mass	
		lbf/ft	N/m	lbf	N	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1,600	23,400	475	2,110	-50 to 200	-46 to 93	2.18	10.64

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

[b] Sideflexing applications must not exceed 180°F (82°C).

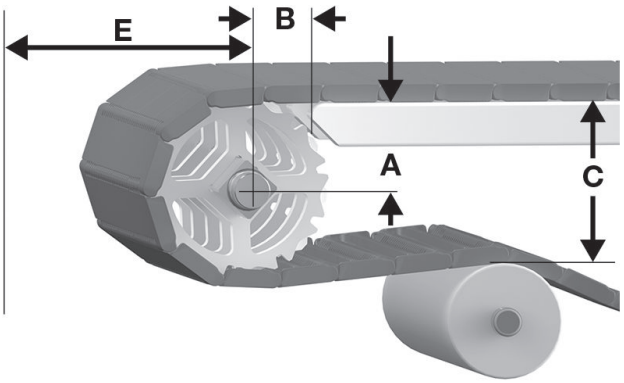
SERIES 2950

Acetal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.97%)	6.2	157	6.4	163	1.2	30.5	1-7/16, 2	1.5, 2.5		40, 60	

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

CONVEYOR FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. These dimensions are provided in the following table. For complete descriptions of these dimensions, see Frame Dimensions in the Design Guidelines chapter.



A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
C vertical distance between carryway top and returnway support top
E minimum horizontal distance between shaft centerline and other components

Figure 94: A, B, C, and E drive dimensions

S2950 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)[a]							
in	mm		in	mm	in	mm	in	mm	in	mm
DirectDrive Stacker										
6.2	157	13	2.71-2.81	69-71	2.47	63	6.20	157	3.46	88

[a] For general applications and applications where end transfer of tip-sensitive product is not critical, use the bottom of the range.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. Minimum gap dimensions are provided in the following table. For more information, see Dead Plate Gap in the Design Guidelines chapter.

S2950 Dead Plate Gap				
Sprocket Description			Minimum Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.2	157	13	0.092	2.3

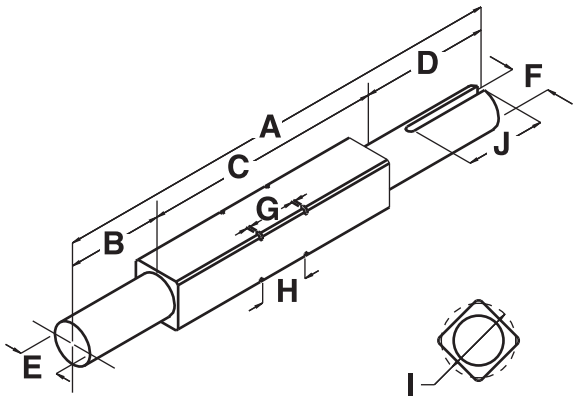
SQUARE SHAFTS

MACHINED TO CUSTOMER SPECIFICATIONS

After the stock is cut to length, the raw shaft is precision straightened. The bearing journals are turned, then the retainer ring grooves*, keyways, and chamfers are cut. The final step is a thorough, quality control inspection before shipping. For help with specifying shaft dimensions, contact Intralox Customer Service.

*If the shaft is to operate under high belt loads, retainer ring grooves are not recommended. Self-set or split heavy-duty retainer type rings are recommended in these cases. For retainer ring recommendations, contact Intralox Customer Service.

NOTE: If using the shaft in a hollow gearbox, contact Intralox Customer Service.



A length: overall
B length: bearing-end journal
C length: square section
D length: drive-end journal and keyway dimensions
E diameter: bearing journal
F diameter: drive-end journal
G width: retainer ring groove
H width: sprocket hub
I diameter: ring groove
J length of keyway

Figure 95: Shaft dimensions required

Square Shafts Available from Intralox USA[a]				
Size	**C1018 Carbon Steel**	**C1045 Carbon Steel**	**303/304 Stainless Steel**	**316 Stainless Steel**
0.625 in	+0.000 in to -0.003 in		+0.000 in to -0.004 in	+0.000 in to -0.004 in
1 in	+0.000 in to -0.003 in		+0.000 in to -0.004 in	+0.000 in to -0.004 in
1.5 in	+0.000 in to -0.003 in		+0.000 in to -0.006 in	+0.000 in to -0.006 in
40 mm		contact Intralox	+0.000 mm to -0.160 mm	
60 mm		contact Intralox	+0.000 mm to -0.180 mm	
2.5 in	+0.000 in to -0.004 in		+0.000 in to -0.008 in	+0.000 in to -0.008 in
3.5 in[b]	+0.000 in to -0.005 in		+0.000 in to -0.005 in	N/A

[a] Consult Intralox for shafts longer than 12 ft (3.7 m).
[b] 3.5 in carbon steel shafts can be nickel plated for corrosion resistance.

Square Shafts Available from Intralox Europe[a]		
Size	**KG-37 Carbon Steel**	**303/304 Stainless Steel**
25 mm	+0.000 mm to -0.130 mm	+0.000 mm to -0.130 mm
40 mm	+0.000 mm to -0.160 mm	+0.000 mm to -0.160 mm
60 mm	+0.000 mm to -0.180 mm	+0.000 mm to -0.180 mm
65 mm	+0.000 mm to -0.180 mm	+0.000 mm to -0.180 mm
90 mm	+0.000 mm to -0.220 mm	+0.000 mm to -0.220 mm
[a] Consult Intralox for shafts longer than 2 m.		

Tolerances (unless otherwise specified)	
Overall length	< 48 in: ±0.061 in (< 1200 ±0.8 mm)
	> 48 in: ±0.125 in (> 1200 ±1.2 mm)
Journal diameter	-0.0005 in/ -0.003 in (Øh7 vlgs. NEN-ISO 286-2)
Keyway widths	+ 0.003 in/- 0.000 in (+ 0.05/- 0.00 mm)

Surface Finishes	
Journal	63 microinches (1.6 micrometers)
Other machined surfaces	125 microinches (3.25 micrometers)

Keyways	
U.S. sizes	Unless otherwise specified — U.S. keyways are for parallel square keys (ANSI B17.1 - 1967, R1973).
Metric sizes	Metric keyways are for flat, inlaid keys with round ends (DIN 6885-A).

RETAINER RINGS AND CENTER SPROCKET OFFSET

SELECTING RECOMMENDED RETAINER RINGS

Intralox recommends the use of retainer rings to fix the location of one sprocket on each shaft. The fixed sprocket limits transverse movement of the belt during operation. In many applications, spring-type rings are used with success; however these rings require cutting small grooves into the corners of the shafts. In some applications where belt loads are higher and stresses in the shaft are greater, the presence of ring grooves is undesirable, as they create places where stresses are concentrated. In these cases, Intralox recommends using alternative retainer rings that require no grooves, such as the Self-Set or Split Collar rings.

Use Table 5: Belt Pull Limits Vs. Shaft Span for Retainer Ring Grooves to identify recommended limits of belt pull versus shaft span between bearings, then determine if retainer ring grooves can be used. For a given shaft size and span, if the belt pull (BP), exceeds the values shown, select a ring that requires no grooves in the shaft.

STANDARD RETAINER RINGS

Intralox provide standard retainer rings in plastic and stainless steel.

- For information about plastic retainer rings, see Standard Plastic Retainer Rings.
- For information about stainless steel retainer rings, see Standard Stainless Steel Retainer Rings.

STANDARD PLASTIC RETAINER RINGS

- Plastic retainer rings are available in sizes to fit 1.5 in and 2.5 in square shafts.
- Plastic retainer rings are made from polysulfone.
- The temperature range of polysulfone is -125°F to 300°F (-98°C to 149°C).
- Plastic retainer rings require grooves identical to the grooves used for stainless steel retainer rings on 1.5 in and 2.5 in shafts. See Retainer Ring Groove and Chamfer Dimensions.
- Plastic retainer rings are not compatible with all sprockets. See Stainless Steel Retainer Ring Restrictions.

PLASTIC RETAINER RING RESTRICTIONS

Standard retainer rings do NOT work with the following sprockets:

Retainer Ring Size	Series	Pitch Diameter		Bore Size	
		in	mm	in	mm
1.5 in	400	4.0	102	1.5	40
	1600	3.2	81	1.5	40
2.5 in	400	5.2	132	2.5	40
	1100	3.1	79	2.5	40

STANDARD STAINLESS STEEL RETAINER RINGS

- Stainless steel retainer rings are available to fit 5/8 in, 1.0 in, 1.5 in, 2.5 in, 3.5 in, 25 mm, 40 mm, 60 mm, 65 mm, and 90-mm square shafts.
- Stainless steel retainer rings are not compatible with all sprockets. See Stainless Steel Retainer Ring Restrictions.

The following ANSI Type 3AMI rings, conforming to MIL SPEC R-2124B are available:

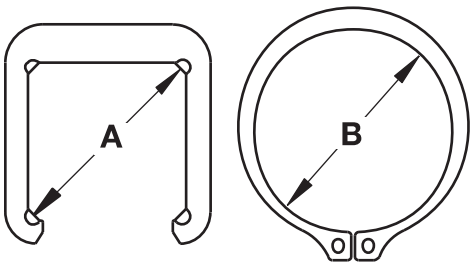
STAINLESS STEEL RETAINER RING RESTRICTIONS

Stainless steel retainer rings do not work with the following sprockets:

Retainer ring size	Series	Pitch Diameter[a]	
		in	mm
1.219 in	900	2.1	53
	1100	2.3	58

[a] To lock down the S900 2.1 in (53 mm) and (58 mm) pitch diameter sprockets, a setscrew is required. Place the setscrew on each side of the sprocket. Contact Intralox Customer Service for more information.

RETAINER RING GROOVE AND CHAMFER DIMENSIONS



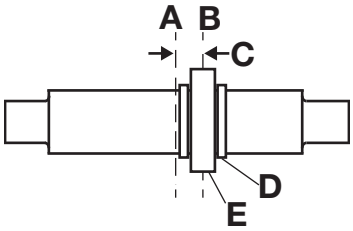
A ring groove diameter for plastic retainer rings
B ring groove diameter for stainless steel retainer rings

Figure 96: Retainer ring groove diameters

Shaft Size	Retainer Ring Groove and Chamfer Dimensions[a]		
	Groove Diameter	Width	Chamfer[b]
5/8 in	0.762 ± 0.003 in	0.046 + 0.003/- 0.000 in	0.822 ± 0.010 in
1 in	1.219 ± 0.005 in	0.056 + 0.004/- 0.000 in	1.314 ± 0.010 in
1.5 in	1.913 ± 0.005 in	0.086 + 0.004/- 0.000 in	2.022 ± 0.010 in
2.5 in	3.287 ± 0.005 in	0.120 + 0.004/- 0.000 in	3.436 ± 0.010 in
3.5 in	4.702 ± 0.005 in	0.120 + 0.004/- 0.000 in	4.773 ± 0.010 in
25 mm	30 ± 0.1 mm	2.0 + 0.15/- 0.00 mm	33 ± 0.25 mm
40 mm	51 ± 0.1 mm	2.5 + 0.15/- 0.00 mm	54 ± 0.25 mm
60 mm	80 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	82 ± 0.25 mm
65 mm	85 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	89 ± 0.25 mm
90 mm	120 ± 0.1 mm	4.5 + 0.15/- 0.00 mm	124 ± 0.25 mm

[a] In some instances, the retainer ring grooves are offset from the shaft center. See Sprocket Retention.
[b] For S200, S400, and S800 molded sprockets, shafts must be chamfered to fit.

LOCKED SPROCKET POSITION ON SHAFT



A shaft centerline
B sprocket centerline
C center sprocket offset
D retainer ring
E sprocket

Figure 97: Locked sprocket position

Use the following table to determine the proper center sprocket offset.

To prevent incorrect placement of machined retainer ring grooves, consider using Self-Set Retainer Rings or Split Collar Retainer Rings, which allow easy adjustment of the center sprocket placement and do not require machined groves on the shaft.

Center sprocket placement can change when belt styles are combined. Contact Intralox Customer Service for more information.

Center Sprocket Offset						
Series	Number of Links	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
100	even	0	0	6	152	
	odd	0.12	3	6	152	
200	even, odd	0	0	7.5	191	
200 Raised Rib	even, odd	0.09	2.3	7.5	191	
400	even	0	0	6	152	
	odd	0.16	4	6	152	
400 Roller Top, Angled Roller, Transverse Roller Top	See Center Sprocket Offset for Roller Belts.					
560	even	0.5	12.7	6	152	
	odd	0	0	6	152	
800	even, odd	0	0	6	152	

Center Sprocket Offset						
Series	Number of Links	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
800 Angled EZ Clean sprockets	even, odd	0.16	4	6	152	Ensure 6-, 10-, and 16-tooth sprockets are placed on belt centerline.
800 Raised Rib	even	3	76	6	152	
	odd	0	0	6	152	
850	even, odd	0	0	6	152	
888	See Series 888 in the Installation Instructions or contact Intralox Customer Service.					
900	even	0	0	4	102	
	odd	0.16	4	4	102	
900 Open Flush Grid	For offset and number of links, see Series 900 in the Installation Instructions or contact Intralox Customer Service.					
1000	even	0	0	6	152	
	odd	0.25	6.44	6	152	
1000 Insert Roller, High Density Insert Roller	even	1.5	38.1	6	152	
	odd	0	0	6	152	
1000 High Density Insert Roller 85 mm	even	1.67	42.5	6	152	
	odd	0	0	6	152	
1100	even (whole)	0	0	4	102	The 8- and 12-tooth steel sprockets can be placed on belt centerline.
	odd (whole)	0.5	12.7	4	102	
	even, odd	0.25	6.35	4	102	Even or odd number of links in increments of 0.5 in (12.7 mm). The 8- and 12-tooth steel sprockets can be placed on belt centerline.
1100 EZ Track sprockets	even (whole)	0.19	4.8	4	102	
	odd (whole)	0.31	7.9	4	102	
	even, odd	0.06	1.52	4	102	Even or odd number of links in increments of 0.5 in (12.7 mm)
1200				6	152	For offset and number of links, see Series 1200 in the Installation Instructions or contact Intralox Customer Service.
1400	even	0	0	6	152	
	odd	0.5	12.7	6	152	
1400 FG				6	152	For offset and number of links, see Series 1400 in the Installation Instructions or contact Intralox Customer Service.
1500				6	152	For offset and number of links, see Series 1500 in the Installation Instructions or contact Intralox Customer Service.
1600	even, odd	0	0	4	102	
1650	even, odd	0.25	6.4	4	102	The 20-tooth sprocket has zero offset.
1700	even	0.5	12.7	4	102	
	odd	0	0	4	102	
1750	even	0	0	4	102	When determining number of links, drop the 0.5 link.
	odd	0.5	12.7			
1800	even, odd	0	0	6	152	
1900				3	76	For offset and number of links, see Series 1900 in the Installation Instructions or contact Intralox Customer Service.
2100	even, odd	1.97	50	3.94	100	

Center Sprocket Offset						
Series	Number of Links	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
2200	even	0.25	6.4	4	102	When determining number of links, drop the 0.5 link. Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.25	6.4	4	102	When determining number of links, drop the 0.5 link. Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
2300	even	0	0	6	152	
	odd	1.5	38	6	152	
2400	even	0.125	3.2	6	152	When determining number of links, drop the 0.5 link. Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.125	3.2	6	152	When determining number of links, drop the 0.5 link. Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
2600	even, odd	0	0	8	203	
2700	even, odd	0	0	8	203	
2800	even	0	0	6	152	
	odd	0.5	12.7	6	152	
4400	even, odd	0.5	12.7	9	229	
4500	even	0.5	12.7	6	152	
	odd	0	0	6	152	
4500 dual tooth sprockets	even	0	0	6	152	
	odd	0.5	12.7	6	152	
9000	even	0.5	12.7	4	102	
	odd	0	0	4	102	
10000 hinge drive (preferred)	even	0.25	6.3	5.91	150	Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.25	6.3	5.91	150	Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
10000 center drive	even	0.25	6.3	5.91	150	Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.25	6.3	5.91	150	Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	Number of Rollers Per Row					
400 Roller Top, Angled Roller, Transverse Roller Top	even	0	0	6	152	
	odd	1	25.4	6	152	

CENTER SPROCKET OFFSET FOR ROLLER BELTS

Center Sprocket Offset for Roller Belts						
Series	Number of Rollers	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
400	even	0	0	6	152	
	odd	1	25.4	6	152	
4500	even	0	0	6	152	
	odd	1	25.4	6	152	
4550	even	0	0	6	152	
	odd	1	25.4	6	152	

Center Sprocket Offset for Roller Belts						
Series	Number of Rollers	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
7000	Divisible by 4	1	25.4	6	152	Number of rollers = belt width in inches - 1 (belt width in mm/25.4 - 1)
	Not divisible by 4	0	0	6	152	
7050	Divisible by 8	1	25.4	6	152	
7050	Not divisible by 8	0	0	6	152	

SELF-SET RETAINER RINGS

Self-set retainer rings are available to fit 1.0 in, 1.5 in, 2.5 in, 3.5 in, 40 mm, 60 mm, and 65-mm shafts.

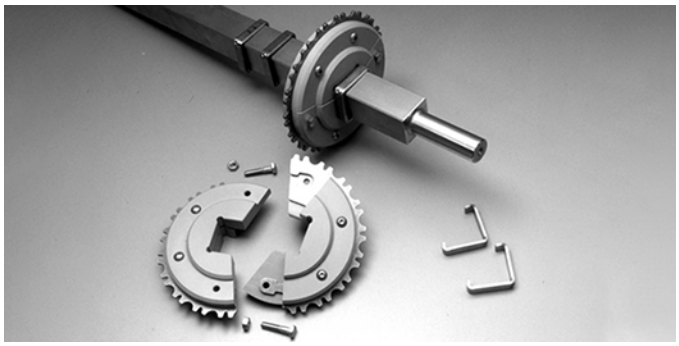
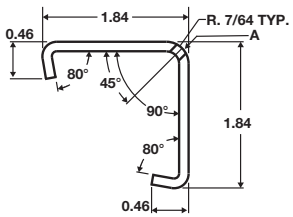


Figure 98: Self-set retainer rings

- Retainer rings are made from non-corrosive 316 stainless steel.
- There is no need for machined grooves on the shaft and the shaft does not need to be removed to install these retainer rings.
- Self-set retainer rings are USDA-FSIS accepted.
- Self-set retainer rings snap into place on the square shaft and are fixed in position with a unique setscrew that cannot fall out of the retainer ring during operation.
- The shaft must have chamfered edges for the retainer ring to work properly.
- Self-set retainer rings are not recommended in applications where high lateral forces are to be expected.
- Self-set retainer rings have the following restrictions:

Self-Set Retainer Ring Restrictions			
Retainer Ring Size	Self-set retainer rings do NOT work with the following sprockets:		
	Series	Pitch Diameter	
		in	mm
1.0 in	100	2.0	51
	900	2.1	53
	1100	2.3	58

Self-Set Retainer Ring Restrictions			
Retainer Ring Size	Self-set retainer rings do NOT work with the following sprockets:		
	Series	Pitch Diameter	
		in	mm
40 mm	900	3.1	79
	1000	3.1	79
	1100	3.1	79
	1600	3.2	81
65 mm	400	5.2	132



A Custom setscrew, fully inserted, head first, from this side

Figure 99: Self-set retainer ring dimensions

ROUND SHAFT RETAINER RINGS

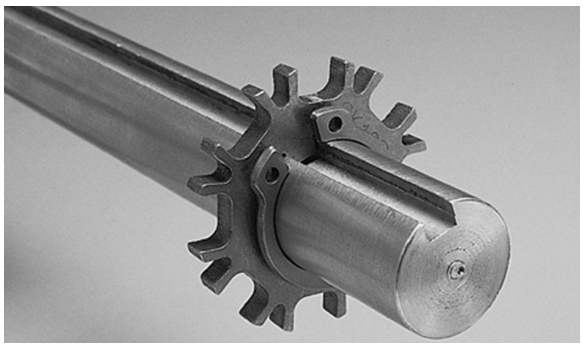


Figure 100: Round shaft retainer ring

- Round shaft retainer rings are available to fit 0.75 in, 1.0 in, and 25 mm round shafts.
- Made of stainless steel.
- Do not require a groove for placement, because friction holds the retainer rings in place.
  NOTE: Avoid grooves on round shafts. Grooves cause fatigue and shaft failure.

SPLIT COLLAR RETAINER RINGS

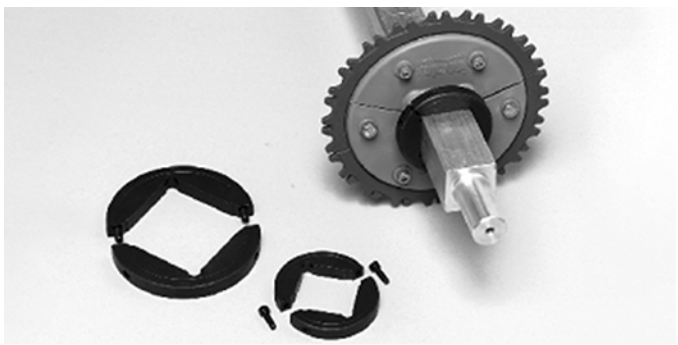


Figure 101: Split collar retainer rings

Split collar retainer rings are available to fit the following shaft sizes:

Split Collar Retainer Ring Shaft Compatibility	
Square Shafts	**Round Shafts**
1.5 in	3/4 in
2.5 in	1 in
40 mm	1-3/16 in
60 mm	1-1/4 in
	1-3/8 in
	1-7/16 in
	1-1/2 in
	2 in

- The retainer rings are made from 304 stainless steel.
- For use in applications with high lateral loads on the sprockets.
- These retainer rings do not require the shaft to be chamfered and do not require shaft removal, simplifying installation.
- Split collar retainer rings have the following restrictions:

Split Collar Retainer Ring Restrictions			
Split Collar Retainer Rings are not compatible with 3.0 in (76.2 mm) pitch diameter or smaller sprockets or with the following sprockets.			
Retainer Ring Size	**Series**	**Pitch Diameter**	
		in	**mm**
1.5 in and 40 mm	400	4.0	102
	900	3.1	79
	900	3.5	89
	1000	3.1	79
	1100	3.1	79
	1100	3.5	89
	1600	3.2	81
2.5 in and 60 mm	400	5.2	132
	1000	4.6	117
	1100	4.6	117
	1400	4.9	124
	2600	5.2	132
	2700	5.2	132

SPROCKET SPACERS

Use of sprocket spacers and retainer rings in the recommended locations prevents problems associated with sprocket migration and belt drift. Intralox can provide a recommended drive configuration, including sprockets, spacers, and retainer rings for your application and detailed guidelines for designing conveyors for use with Intralox™ FoodSafe® modular plastic belts. Contact Intralox Customer Service for more information.

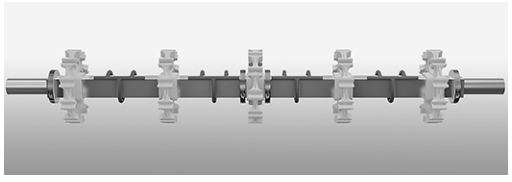


Figure 102: Sprocket spacers on square shaft with sprockets and retainer rings

Sprocket Spacer[a]					
Nom. Sprocket Spacer Width		Available Bore Sizes			
		U.S.		Metric	
in	mm	Round in	Square in	Round mm	Square mm
1.0	25		1.5		40
1.5	38		1.5		40
2.0	51		1.5		40
3.0	76		1.5		40
3.5	89		1.5		40
4.0	102		1.5		40
5.0	127		1.5		40

[a] Contact Intralox Customer Service for available materials.

ROUND BORE ADAPTERS

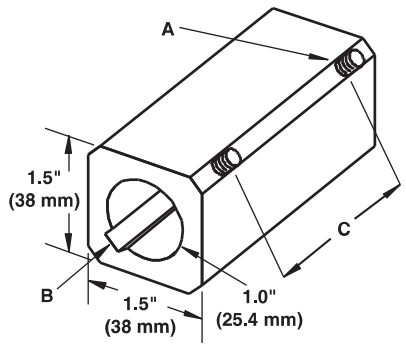
Sprocket inserts are available to adapt 1.5 in square bore sprockets to use 1 in diameter shafts. These inserts are only recommended for lightly loaded belts or for narrow belts up to 18 in (460 mm) wide.

Adapters are made of glass-filled polypropylene for strength and chemical resistance and are available in 2.5 in (64 mm) and 3.5 in (89 mm) lengths. The 2.5 in (64 mm) adapter has a torque limit of 875 in-lbf (99 N-m). The 3.5 in (89 mm) adapter is limited to 1200 in-lbf (135 N-m). The operating temperature limits are between 45°F and 120°F (7°C and 50°C).

Setscrews are provided to retain the sprockets on the adapters and to lock the center sprocket to the shaft. The 3.5 in (89 mm) adapter has a third tapped hole to accommodate a range of hub widths. To determine which adapter to use with a given sprocket hub width, see the following table.

For certain sprocket and adapter combinations, more than one sprocket can be placed on each adapter. See the sprockets per adapter column in the following table for more information.

NOTE: Round bore adapters are not recommended for use with split sprockets or abrasion resistant sprockets.



A 1/4 in - 20 × 5/8 in setscrews (UNC threads)
B keyway - 0.25 in × 0.125 in (6 mm × 3 mm)
C gap between setscrews:2.5 in (64 mm) adapter1.5 in (38 mm) gap3.5 in (89 mm) adapter2.5 in (64 mm) gap
Figure 103: Round bore adapter

Round Bore Adapter Selection Table[a]							
Sprocket Hub Widths		Locked Center Sprocket			Floating Sprockets		
		Adapter Sizes		Sprockets per Adapter	Adapter Sizes		Sprockets per Adapter
in	mm	in	mm		in	mm	
0.75	19	2.5	64	2	2.5	64	1
1.00	25	2.5	64	1	3.5	89	1
1.25	32	3.5	89	2	3.5	89	1
1.50	38	2.5	64	1	3.5	89	1
2.50	64	3.5	89	1	3.5	89	1

[a] Spacers can be required to lock down center sprockets on adapters.

SCROLL IDLERS

A scroll idler can be used in applications where excessive debris can hamper sprocket performance or damage the belt or where the drive shaft and sprockets must be kept clean. The curved, flighted surface of the scroll directs debris away from the belt center, toward the edges, where it can fall away from the belt and conveyor components.

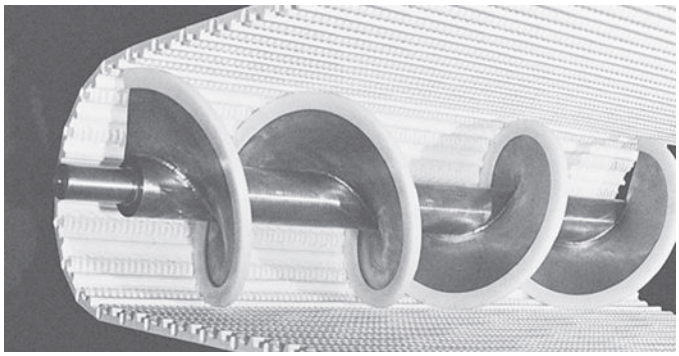


Figure 104: Scroll idler

Intralox offers scrolls in two nominal diameters: 6 in (152 mm) and 9 in (229 mm). Flight pitch, the axial distance for the flight to sweep through a full circle, is also 6 in (152 mm) and 9 in (229 mm), respectively. Since the scroll idler also serves as the idle shaft, each scroll idler has a minimum scroll length to ensure proper belt support. For narrow belts, or for extra support, a double-flighted scroll is available.

Scroll Dimensions							
Diameter				Minimum Scroll Length (exclusive of journals)			
Nominal		Actual		Single-Flighted		Double-Flighted	
in	mm	in	mm	in	mm	in	mm
6	152	6.7	170	12.5	318	6.5	165
9	229	9.7	246	18.5	470	9.5	241

Intralox scrolls are offered in carbon steel and stainless steel with a thick section of UHMW-PE wearstrip attached to the flight edges. Carbon steel scrolls are treated and painted for protection. Stainless steel scrolls with a polished weld bead are available for USDA-FSIS applications.

Scroll Features	Flight Material		
	Carbon Steel	Stainless Steel	Stainless Steel USDA-FSIS
6 in (152 mm) scroll diameter	•	•	•
9 in (229 mm) scroll diameter	•	•	•
Intermittent welds	•	•	
Continuous, polished welds			•
UHMW-PE flight edging	•	•	•
Primer grey paint	•		

- All scrolls are mounted on a 2.5 in (63.5 mm) diameter round shaft.
- Maximum journal diameter is 2.5 in (63.5 mm) and minimum journal length is 2 in (50.8 mm).
- Position the scroll idler assembly in the conveyor frame so the V-shape at the center of the scroll (where the left and right flights meet) points in the direction of belt travel. Adjust the shaft take-up, if there is one, to have even tension on both sides.
- Intralox scrolls have no built-in tracking ability. It can be necessary to use side-mounted wearstrips on the infeed end.

WEARSTRIPS

FLAT WEARSTRIPS

Standard flat wearstrips are available in UHMW-PE and Nylatron® (a molybdenum-filled nylon). UHMW-PE wearstrips measure 0.25 in (6 mm) thick × 1.25 in (32 mm) wide × 120 in (3048 mm). Nylatron wearstrips measure 0.125 in (3 mm) thick × 1.25 in (32 mm) wide × 48 in (1219 mm). UHMW wearstrips are FDA and USDA-FSIS compliant for direct food contact. Nylatron wearstrips are not FDA or USDA-FSIS accepted for food applications.

Flat finger-joint wearstrips have a notched end design which provides overlapping sections for continuous support. UHMW-PE wearstrips are available in 24 in (610 mm) and 60 in (1524 mm) lengths. Fasteners are supplied.

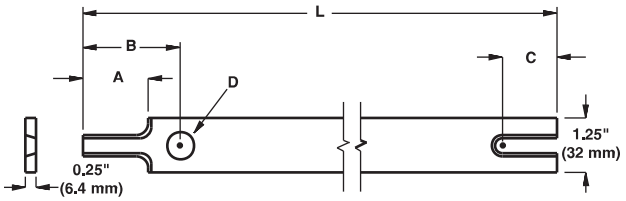


Figure 105: Flat finger-joint wearstrips

L	A	B	C
24 in (610 mm)	1.125 in (28.6 mm)	1.75 in (44.5 mm)	0.75 in (19.1 mm)
60 in (1524 mm)	1.875 in (47.6 mm)	2.25 in (57.2 mm)	1.50 in (38.1 mm)

ANGLE AND CLIP-ON WEARSTRIPS

Intralox also offers various angle and clip-on wearstrips. All clip-on wearstrips styles come in 120 in (3048 mm) lengths. These wearstrips are designed to attach directly to the conveyor frame without fasteners.

- For new applications, use flat wearstrips with wide surface area for carryways and returnways.
- Use clip-on wearstrips only for lightly loaded retrofit applications or to prove concepts. Clip-on wearstrips are not recommended for normal production operation.
- Contact Intralox Customer Service for application-specific information.

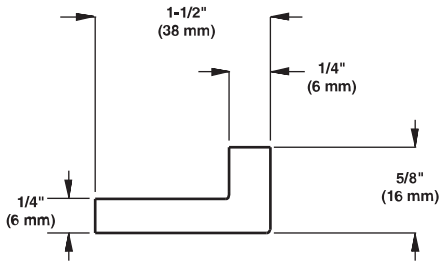


Figure 106: Standard angle UHMW wearstrips (B6XX21IXXWMV)

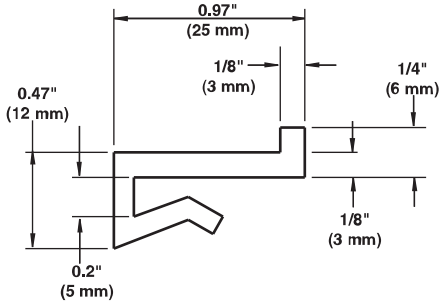


Figure 108: Clip-on with leg UHMW wearstrips (B6XX26IXXWMV)

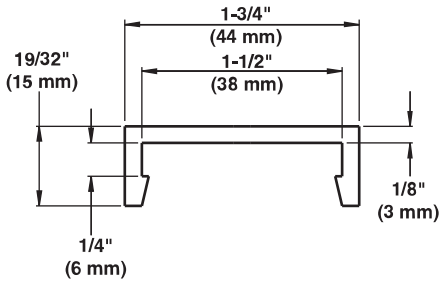


Figure 110: Barbed clip-on UHMW wearstrips (B6XX23IXXWMV)

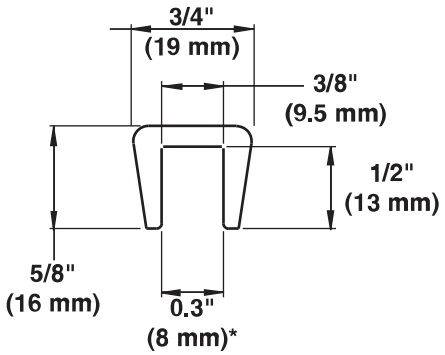


Figure 112: Standard bar snap-on UHMW wearstrips (B6XX28IXXWMV)

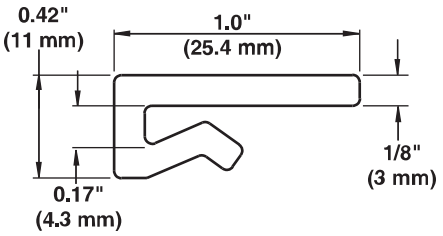


Figure 107: Clip-on UHMW wearstrips (B6XX25IXXWMV)

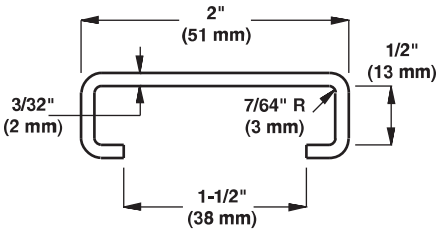


Figure 109: Guide rail snap-on UHMW wearstrips (B6XX27IXXWMV)

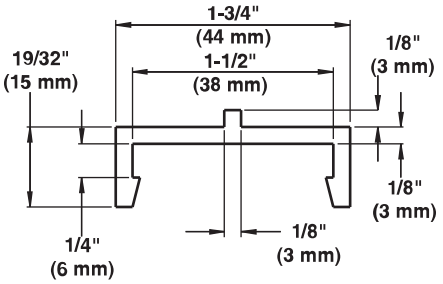


Figure 111: Barbed clip-on with leg UHMW wearstrips (B6XX24IXXWMV)

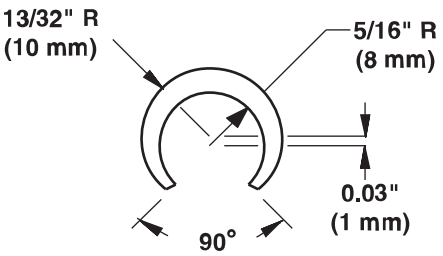
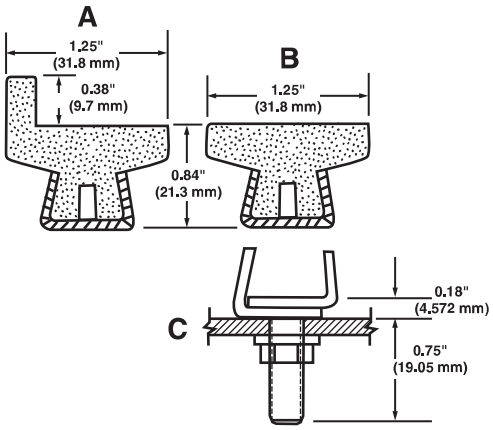


Figure 113: Full round snap-on UHMW wearstrips (B6XX29IXXWMV)

STAINLESS STEEL-BACKED UHMW-PE WEARSTRIP

- Stainless steel-backed UHMW-PE wearstrip can be used to create a rigid belt carryway surface on any frame with cross members.
- Stainless steel-backed UHMW-PE wearstrip is mounted to cross members with a self-tightening stainless steel clip with nut (self-tightening stainless steel clip with nut sold separately).
- Can be installed in parallel, chevron, or other configurations.
- Recommended for temperatures up to 160°F (71°C).
- Available in two profiles: flat (T) wearstrip and flanged (L) wearstrip.
- Available in 120 in (3048 mm) lengths.
- Allow for thermal expansion and contraction when installing wearstrips.
- Always chamfer or bend down the leading edges of any wearstrip.



A 120 in stainless steel back clip-on with leg l UHMW-PE wearstrip (B6XX43lXXWMV-00)
B 120 in stainless steel back t clip-on UHMW-PE wearstrip (B6XX42lXXWMV-00)
C stainless steel self-tightening wearstrip clip and nut, 5/16-18 UNC (C9AX1XXXXXXX-01)
Figure 114: Stainless steel backed UHMW-PE wearstrips

UHMW-PE PRESSURE SENSITIVE TAPE

Intralox offers UHMW-PE self-adhering wearstrip tape in rolls of 54 ft. (16.5 m). This tape can be used for quick and easy conversion of steel wearstrips to a lower friction UHMW-PE wearstrip. The 1 in (25.4 mm) wide and 2 in (50.8 mm) wide tape is available in thicknesses of 0.010 in (0.25 mm) and 0.030 in (0.76 mm).

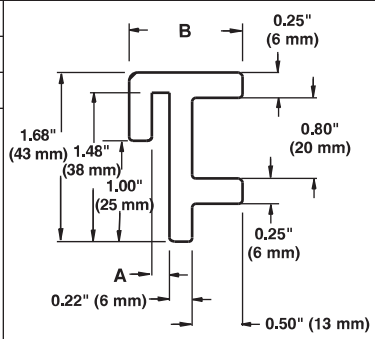
NOTE: UHMW-PE pressure sensitive tape is only to be used in light-duty applications and temporary solutions.

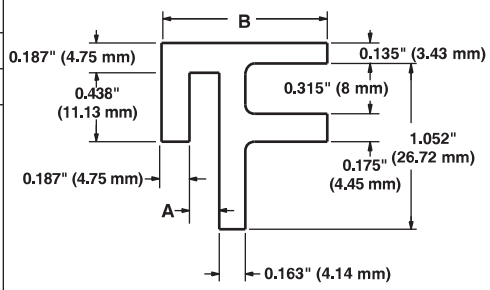
CUSTOM WEARSTRIPS

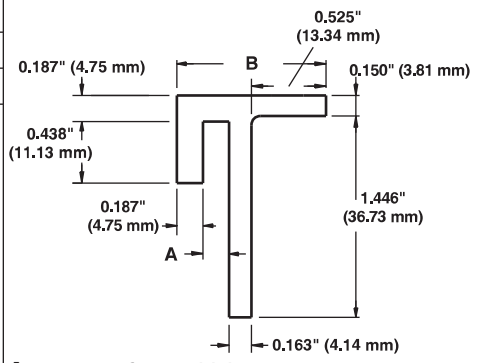
RADIUS BELT WEARSTRIPS

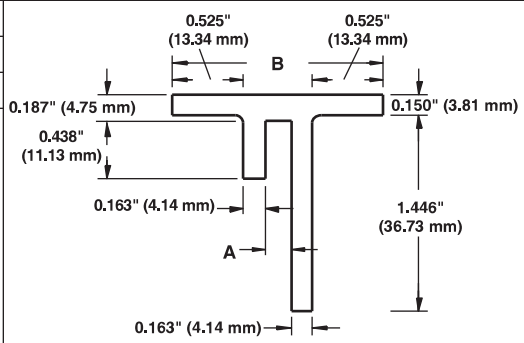
All radius belt wearstrips are available in natural UHMW-PE and self-lubricating, grey, oil-filled UHMW-PE. The angle and center rail wearstrips use the EZ Clean design. All wearstrips are available in either 1/8 in (3.2 mm) or 3/16 in (4.7 mm) sizes. S2400 is available in UHMW-PE only.

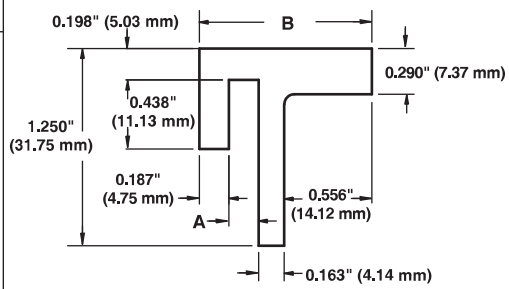
See the following figures for wearstrip dimensions and part numbers.

Standard Edge Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX33IXXWMV-00	 **A** conveyor frame thickness **B** 1.00 in (25.4 mm) for 1/8 in (3.2 mm) wearstrips; 1.13 in (29 mm) for 3/16 in (4.7 mm) wearstrips
UHMW-PE	3/16 in (4.7 mm)	B6XX32IXXWMV-00	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX33IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX32IXXWMW-00	

Tabbed Edge Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX39IXXWMV-20	 **A** conveyor frame thickness **B** 1.00 in (25.4 mm) for 1/8 in (3.2 mm) wearstrips; 1.06 in (27 mm) for 3/16 in (4.7 mm) wearstrips
UHMW-PE	3/16 in (4.7 mm)	B6XX38IXXWMV-10	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX39IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX38IXXWMW-00	

Angled Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX37IXXWMV-00	 **A** conveyor frame thickness **B** 1.00 in (25.4 mm) for 1/8 in (3.2 mm) wearstrips; 1.06 in (27 mm) for 3/16 in (4.7 mm) wearstrips
UHMW-PE	3/16 in (4.7 mm)	B6XX36IXXWMV-00	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX37IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX36IXXWMW-00	

Center Rail Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX41IXXWMV-00	 **A** conveyor frame thickness **B** 1.56 in (40 mm) for both 1/8 in (3.2 mm) and 3/16 in (4.7 mm) wearstrips
UHMW-PE	3/16 in (4.7 mm)	B6XX40IXXWMV-00	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX41IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX40IXXWMW-00	

Series 2400 Hold Down Guide Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6F546IXXWMV-00	 **A** conveyor frame thickness **B** 1.03 in (26 mm) for 1/8 in (3.2 mm) wearstrips; 1.09 in (28 mm) for 3/16 in (4.7 mm) wearstrips
UHMW-PE	3/16 in (4.7 mm)	B6F547IXXWMV-00	

PUSHER BARS

Accumulation tables are most often used in the beverage industry, allowing upstream production machinery to operate continuously and economically when downstream machinery interrupts product flow. These tables act as a buffer to absorb the product overflow until the downstream problem is rectified. The principal function of a pusher bar is to move the last few product rows off the accumulation table, past the dead plate area, and onto the primary conveyor lines. Pusher bars rest on the accumulation table, which must use a Raised Rib style belt (S100, S400, and S900).

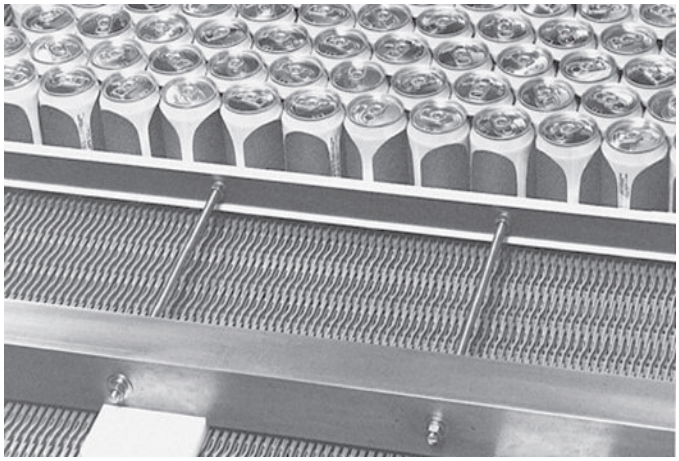
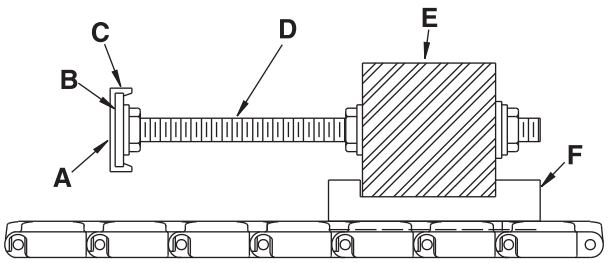


Figure 115: Pusher bar side view

The bar is a 2.5 in (63.5 mm) square stainless or carbon steel shaft which rides in several slotted UHMW guide shoes. The shoes are slotted on the bottom to mesh with the ribs of the belt and keep the bar aligned, perpendicular to the direction of belt travel. The shoes bear the entire weight of the pusher bar, so it is recommended that wearstrips be placed to support the belt directly under the shoes.

The blade of the pusher bar actually does the pushing. Blades are available in 24 in to 120 in (610 mm to 3048 mm) lengths and consists of a rigid steel bar capped with UHMW-PE wearstrips, to avoid marking or damaging products. The blade is set off from the weighted shaft by threaded steel rods, making the amount of offset adjustable to individual needs.



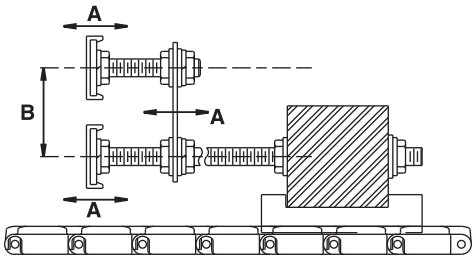
A blade
B barstock
C clip-on wearstrip
D threaded rod
E weight
F guide shoe (slotted bottom surface)

Figure 116: Pusher bar assembly

A dual blade pusher bar is also available for tall or contoured products. The upper blade of this configuration is adjustable up and down and can be extended past or retracted further back from the lower blade.

Adjustment of the pusher bar is dependent upon: 1) placement of the device which limits forward travel of the pusher bar, and 2) dimensions of the product being conveyed. Standard offset is approximately equal to the length of the finger plate to be used:

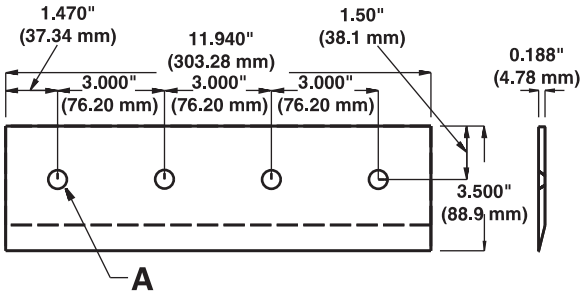
- S100: 5.75 in (146 mm)
- S400: 7.5 in (191 mm)
- S900: 6.5 in (165 mm)



A adjustable
B adjustable from 2–4 in (51–102 mm)
Figure 117: Dual blade pusher bar assembly

TRANSFER PLATES

Intralox offers UHMW-PE transfer plates with operating temperature limits of -100°F to 180°F (-73°C to 82°C).



A holes for 0.25 in (6 mm) bolts
Figure 118: Transfer plates

EZ CLEAN™ IN PLACE (CIP) SYSTEM

Compatible with most conveyors, the EZ CIP system cleans belts quickly, effectively, and consistently while minimizing water usage.

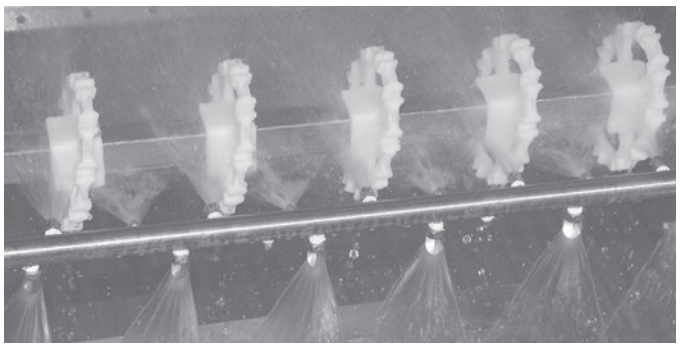


Figure 119: EZ Clean In Place (CIP) System

The CIP system features a spray bar optimally located to increase and expedite debris removal and a custom-engineered spray pattern. The spray pattern is designed to provide thorough cleaning of the belt underside, sprockets, and shaft. The system mounts within the conveyor frame behind the conveyor shaft and sprays the belt at three separate locations. Fan nozzles spray through the open belt hinges below and above the shaft as the belt travels around the sprockets. High-impact nozzles spray the belt underside along the belt drive bars to maximize the debris channeling effect built into EZ Clean belts. Cleaning is further optimized when used along with Angled EZ Clean sprockets.

This system can be installed on the drive end or idle end, but the drive end is preferred. The system is made of 303/304 stainless steel, with highly polished surfaces. The minimum water pressure recommended at the system intake is 150 PSI (10 bar).

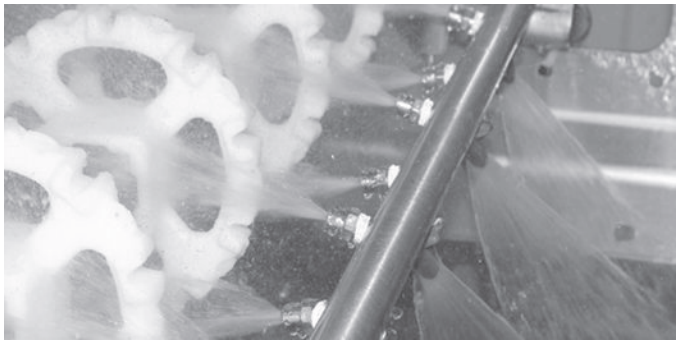


Figure 120: Spray pattern designed to clean of belt underside, sprockets, and shaft

HOLD DOWN ROLLERS

Hold down roller assemblies can be used in place of hold down shoes or rails on wide elevating conveyors. On typical elevating conveyors, flights have a notch in the center of the belt so that a hold down rail or shoe can be used to keep the belt on the conveyor frame. Product loss or damage from these shoes is an inevitable side effect.

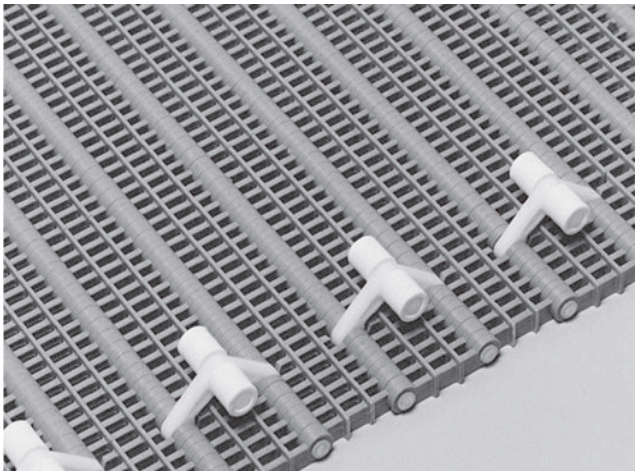


Figure 121: Hold down rollers

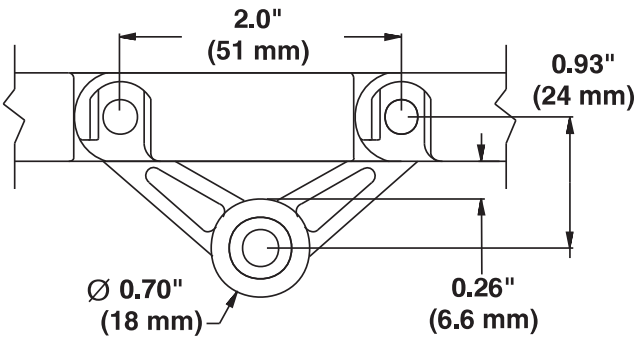


Figure 122: Hold down rollers, side view

Standard roller assemblies have a bracket made of acetal, with polypropylene rollers and rods, and are available for the following belt styles:

Series	Style					
	Flat Top	Flush Grid	Open Grid	Open Hinge	Mesh Top	Perforated Flat Top
S200	•	•	•	•		•
S400	•	•		•		
S800	•	•			•	•

Hold down roller assemblies are built securely into the underside of the belt, held in place by the belt hinge rods. The rollers ride in tracks that anchor the belt in position as it enters the incline of the conveyor. These assemblies can also be used in place of traditional hold down rails or shoes on the side of the conveyor.

Hold down rollers can be placed as frequently as every other belt row, a minimum of 4 in (102 mm) apart to a recommended maximum of 24 in (610 mm) apart. Normally, 8 in (203 mm) spacing, every fourth row is sufficient. Sprocket size is limited by the rollers protruding from the bottom surface of the belt. To keep rollers from coming into contact with the shaft, when using a 1.5 in or 40-mm square shaft, the minimum allowable sprocket pitch diameter is 6.4 in (163 mm). When using a 2.5 in or 60-mm shaft, the minimum sprocket pitch diameter allowable is 7.7 in (196 mm). See Design Guidelines for more information.

ABRASION RESISTANCE SYSTEM

Excessive rod and sprocket wear in abrasive applications can cause various undesirable conditions. Aside from the obvious effect of reduced belt life, there can be added difficulties in making repairs. A badly worn rod cannot be removed easily. Often, belt modules are damaged in the process. Worn rods also cause belt pitch to increase, which decreases sprocket engagement and, in turn, increases the wear rate on sprocket teeth. The belt may not run as smoothly as it should under these circumstances.

Intralox has developed stainless steel split sprockets and Abrasion Resistant (AR) hinge rods which enhance the performance of Intralox belts in abrasive or gritty environments. Rigorous testing shows that these AR components significantly outlast standard components and increase belt module life. Abrasive particles are less likely to become embedded in the harder AR material. Thus, the components themselves do not become abrasive surfaces wearing on the belt.

SPLIT SPROCKETS

Intralox split sprockets are an alternative to molded plastic sprockets. Split sprockets are constructed from FDA-compliant materials, but are not USDA-FSIS accepted. See the individual shaft and sprocket data pages for detailed information.

The old style—all stainless steel abrasion-resistant sprockets—are still available as special order items. Contact Intralox Customer Service for more information.

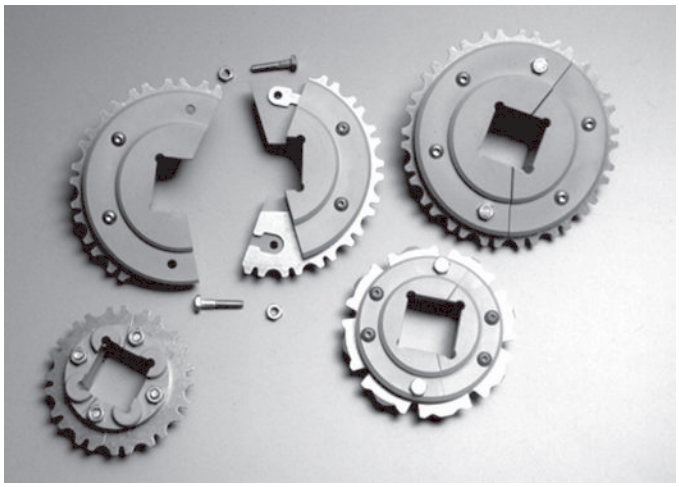


Figure 123: Split sprockets

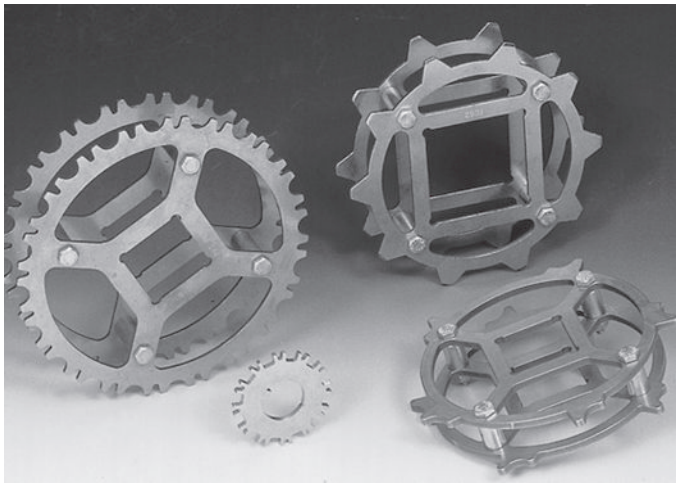


Figure 124: Abrasion resistant (all steel) sprockets

ABRASION RESISTANCE HINGE RODS

Abrasion resistant (AR) rods are stiffer than standard rods, so belt pull capabilities are not sacrificed. AR rods are lighter, less expensive and are more flexible than steel rods. They also provide good chemical resistance, low friction, a wide operating temperature range and are FDA-compliant for direct food contact.

In all belt styles which employ the Intralox snap-lock rod retention system, AR rods are held in place with rodlets installed on both edges of the belt. Rodlets are short, headed rods that are also made of abrasion resistant material.

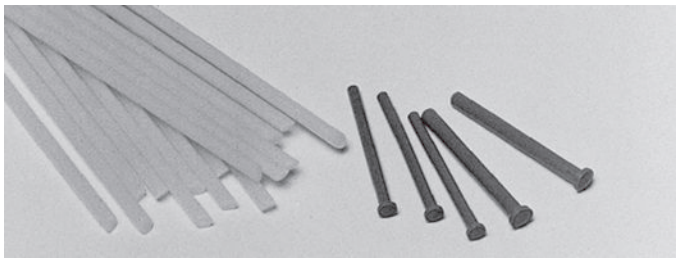


Figure 125: AR rods and rodlets

Belts that utilize an unheaded rod retention system or belts with Slidelox do not require a head of any type.

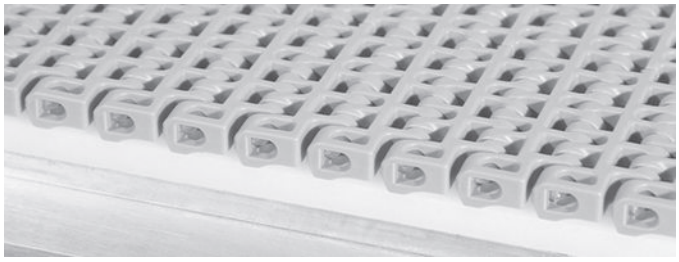


Figure 126: Unheaded rod retention

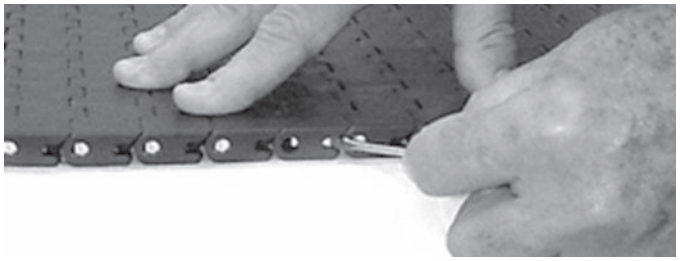


Figure 127: Slidelox rod retention

The Slidelox rod retention system is an unheaded rod retention method. This system uses a Shuttleplug to retain the rods during operation. The Slidelox plug can be easily moved to the side when work on the belt is required.

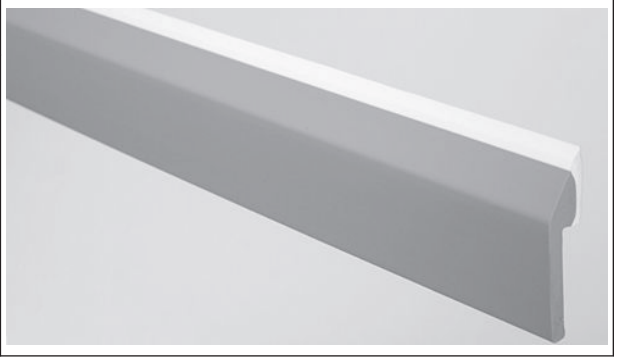
To remove a rod after a belt has been in service for some time, apply a soapy solution or other lubricant to the belt hinge. This approach helps loosen any grit that has become trapped between the rod and the module.

AR rods can absorb water and expand in length and diameter when used in continuously wet, elevated-temperature environments. If an application requires an AR rod in these conditions, contact Intralox Customer Service to determine the approximate expansion due to water absorption.

EZ MOUNT FLEX TIP SCRAPER

Available Height		Available Length		Available Materials
in	mm	in	mm	
2.75	70	72	1830	Rigid PVC base with flexible polyurethane tip

- Available in only one size.
- Only cut to length upon receipt.
- Designed for wet or greasy product applications.
- Not for use with dry products or applications.
- FDA compliant.



RETURNWAY RINGS

Available Sizes						Available Materials
Outer Diameter		Inner Diameter		Ring Width		
in	mm	in	mm	in	mm	
4	102	1.90	48.3	1.0	25	Black rubber
4	102	2.50	63.5	0.7	19	
6	152	2.50	63.5	2.0	51	
6	152	2.36	60.0	2.0	51	

- 4 in (102 mm) rings are not available with text indicating bore diameter.
- Solid rubber material dampens sound.



3 DESIGN GUIDELINES

Every conveyor design has unique objectives and limitations. Rather than provide a step-by-step guide for every design, Intralox provides design guidelines that can be applied to most conveyors. For any conveyor design:

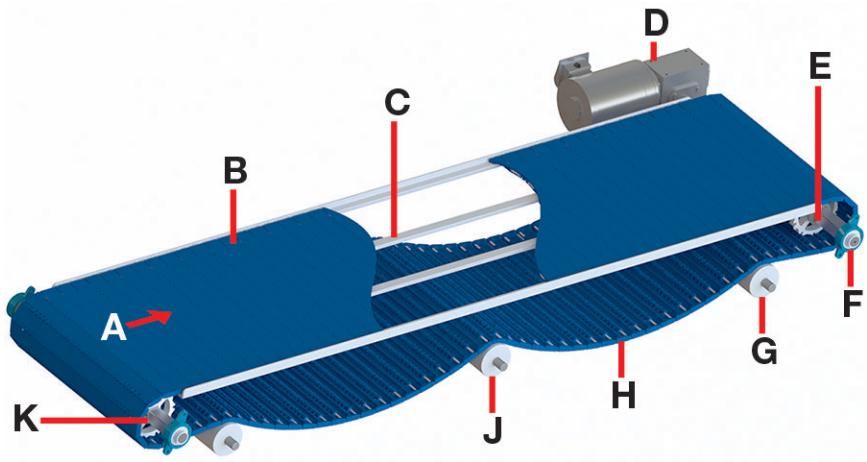
- Apply good machine design principles.
- Ensure the performance characteristics of the selected belt and components are suitable for the application.
- Use the provided design resources.

ADDITIONAL RESOURCES

- Intralox provides CalcLab™ to help calculate and evaluate many aspects of conveyor design. CalcLab is an always up-to-date replacement for legacy engineering programs that runs in the browser and can be accessed from any internet-connected computer. To use CalcLab, go to calclab.intralox.com.
- In addition to these general design guidelines, Intralox provides more specific guidelines for certain belts and applications. Contact Intralox Customer Service for more information.
- Engineering assistance, design reviews, CAD files, and other services and resources are available. For more information, see Intralox Resources.

CONVEYOR DESIGN

The following figure identifies the main components of a flat, straight-running, end-drive conveyor. Incline, decline, spiral, and radius conveyors have different components and design requirements. For more information about these designs, see Other Conveyor Designs. For information about other drive locations, see Drive Location.



A run direction
B belt
C carryway wearstrips
D drive motor
E drive shaft and sprockets
F shaft bearing
G snub roller
H catenary sag
J returnway support rollers
K idle shaft and sprockets

Figure 128: Conveyor components

NOTE: Figures in this publication are simplified to improve legibility and not intended for use as mechanical drawings.

CRITICAL CONSIDERATIONS

Apply the guidelines provided in this chapter when designing carryways, returnways, drive systems, product containment, and transfers.

- Always identify a belt and accessories before designing the conveyor frame. For belt selection guidelines, see Belt Selection Process.
- Consider the effects of chordal action when selecting a belt and sprockets. See Chordal Action.
- If the operating temperature differs from the ambient temperature, consider thermal expansion and contraction when designing the conveyor. See Dimension Changes.
- Consider the effects of speed and adapt the conveyor design as needed for high-speed applications. See Belt Speed.
- For abrasive applications, use the recommended guidelines to minimize wear to belts, sprockets, and other components. See Abrasion.
- In high-impact applications, protect the belt and wearstrips from deflection and damage. See High-Impact Applications.
- Consider the expected exposure to cleaning, sanitation, or other chemicals when selecting materials. See Chemical Damage.

CONVEYOR FRAMES

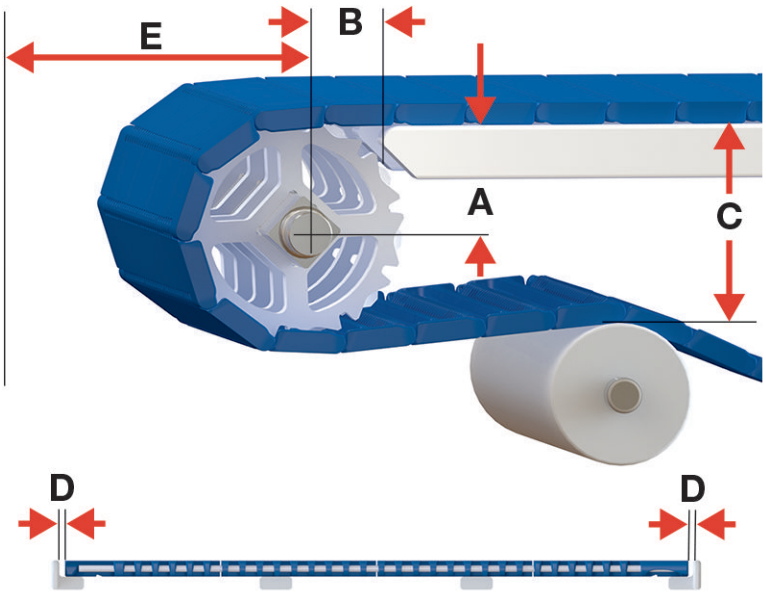
Use the following guidelines when designing conveyor frames:

- Follow all local, state, and national safety regulations and standards.
- Provide proper machine safeguarding.
- Use the provided conveyor frame dimensions for the selected belt and sprockets. See Frame Dimensions.
- Avoid catchpoints. Provide a chamfer or fillet on conveyor frame components that contact the belt. In particular, protect the belt edges and rod retention system from damage.
- Provide openings in the frame for rod insertion and removal.
- Consider belt installation and maintenance requirements when designing the frame. For installation and belt maintenance information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.
- Accommodate cleaning and sanitation requirements. Consider openings to provide access for cleaning, tool-free assembly methods, and avoidance of frame assembly methods that can harbor bacteria.

FRAME DIMENSIONS

All conveyors designed for use with Intralox belts have certain dimensional requirements. Carryway and returnway dimensions for each belt and sprocket combination are provided in the Product Line chapter.

Intralox uses the following definitions for conveyor frame dimensions:

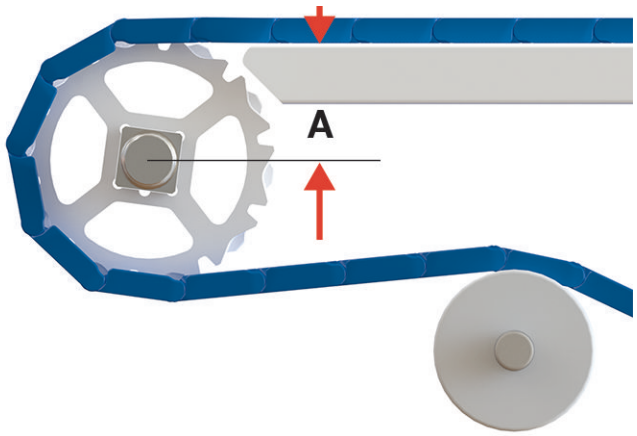


A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm); see A Drive Dimension
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm); see B Drive Dimension
C vertical distance between carryway top and returnway support top; see C Drive Dimension
D minimum clearance between belt edge and outer wearstrip: 0.25 in (6 mm). See D Drive Dimension
E minimum horizontal distance between shaft centerline and other components; see E Drive Dimension

Figure 129: A, B, C, D, and E drive dimensions

A DRIVE DIMENSION

The A drive dimension is the vertical distance (A) between the shaft centerline and the top of the carryway. This distance combines with chordal action of the belt to affect belt-to-sprocket engagement and end-on or end-off product transfers. For more information about chordal action, see Chordal Action.



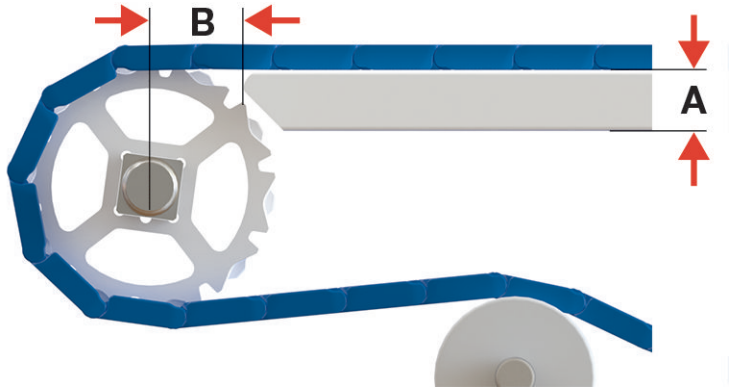
A vertical distance between shaft centerline and carryway top, ± 0.03 in (1 mm)

Figure 130: A drive dimension

B DRIVE DIMENSION

The B drive dimension is the horizontal distance (B) between the shaft centerline and the beginning of the carryway. Using this recommended distance is critical to avoiding sprocket interference.

- The B drive dimension assumes a carryway height of 0.5 in (13 mm). If product loads require a thicker carryway to reduce deflection, consider chamfering the carryway ends to avoid sprocket interference. For more information, see Avoiding Sprocket Interference.
- For applications where product stability is a concern, consider extending carryway wearstrips in between the sprockets. For more information, see Anti-Sag Wearstrip Configuration.

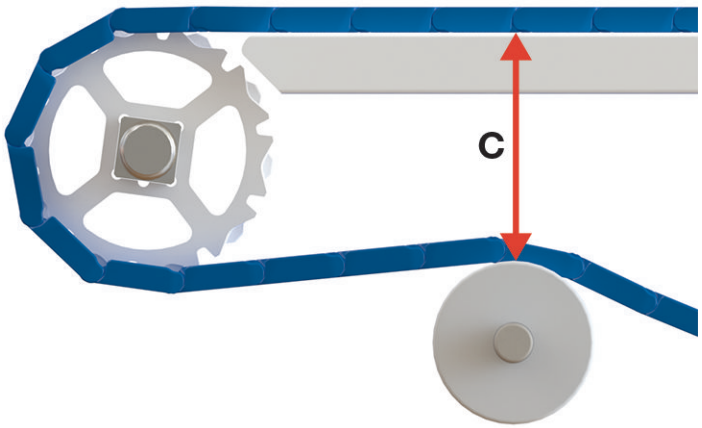


A carryway height
B horizontal distance between shaft centerline and beginning of carryway, ± 0.125 in (3 mm)
Figure 131: B drive dimension

C DRIVE DIMENSION

The C drive dimension is the vertical distance (C) between the top of the carryway and the top of the returnway supports. Using this recommended distance ensures the belt properly wraps around and engages the sprockets.

Most belts must wrap 180 degrees to 210 degrees around the sprockets. Certain belts have different or more exact requirements. For more information about proper sprocket engagement, see Returnways and Take-Ups.



C vertical distance between carryway top and returnway support top
Figure 132: C drive dimension

D DRIVE DIMENSION

The D drive dimension is the minimum clearance (D) between the belt edges and the outer wearstrips. Some belt materials require more clearance. This clearance is necessary to accommodate temporary belt expansion due to temperature changes or moisture absorption. For applications that operate above the ambient temperature, additional clearance can be needed.

- To calculate expected expansion due to temperature changes, see Accommodating Thermal Expansion and Contraction and Belt Material Growth.
- Provide additional room if the operating temperature is above ambient.

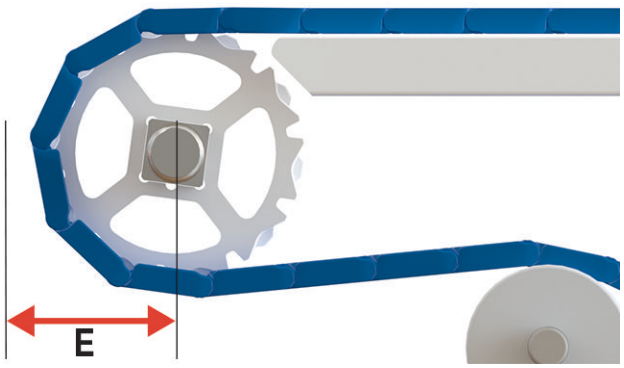


D minimum clearance between belt edge and outer wearstrip: 0.25 in (6 mm)

Figure 133: D drive dimension

E DRIVE DIMENSION

The E drive dimension is the minimum horizontal distance (E) between the shaft centerline and other components or adjacent equipment. This distance is necessary to prevent interference during operation. Belts with flights, sideguards, or other raised features require additional distance.



E minimum horizontal distance between shaft centerline and adjacent equipment

Figure 134: E drive dimension

CARRYWAYS

The carryway supports the belt in the load-bearing part of a conveyor. The primary purpose of the carryway is to provide a lower friction surface for the belt to slide against. Carryways are commonly made of low-friction material to reduce wear on the belt and conveyor frame.

Use the following guidelines for flat, straight-running conveyor carryways. For other conveyor types, see Other Conveyor Designs.

- Ensure carryway materials are suitable for the application. See Materials.
- Select an appropriate carryway design. See Solid-Plate Carryways and Wearstrip Carryways.
- For wearstrip carryways:
  - Use a recommended wearstrip. See Wearstrip Types.
  - Select an appropriate wearstrip configuration. See Wearstrip Configuration.
  - Accommodate thermal expansion and contraction. See Accommodating Thermal Expansion and Contraction.

MATERIALS

An appropriate carryway material reduces belt wear and power requirements. Intralox recommends ultra-high molecular weight polyethylene (UHMW-PE) for most carryways. UHMW-PE has better wear characteristics, impact resistance, and an excellent combination of physical and mechanical properties compared to other materials. UHMW-PE is FDA and USDA-FSIS compliant for direct food contact, and can be used in temperatures up to 160°F (71°C).

Molybdenum-filled nylon (Nylatron®) can be used in temperatures up to 250°F (121°C) but is not FDA or USDA-FSIS compliant for direct food contact.

Stainless steel can be used when carryway abrasion or corrosion is a concern, but the steel must be smooth and free of burrs. A 303/304 stainless steel with a 2B, cold-rolled surface finish provides the lowest friction of any stainless steel carryway. Contact Intralox Customer Service for more information about design requirements for stainless steel carryways.

For frictional characteristics of belt and carryway materials, see Friction Factors.

For chemical resistance characteristics of carryway materials, see the Chemical Resistance Guide.

WEARSTRIP CARRYWAYS

A wearstrip carryway is appropriate for most applications. In this carryway design, the belt slides over narrow strips of low-friction material. Wearstrips can be arranged in a chevron or a straight, parallel pattern.

Intralox offers carryway wearstrips in UHMW-PE, HDPE, and Nylatron. For more information about Intralox wearstrips, see Wearstrips in the Product Line chapter.

WEARSTRIP TYPES

Intralox provides standard flat wearstrips, flat finger-joint wearstrips, angled wearstrips, and clip-on wearstrips. For available dimensions, see Flat Wearstrips and Angle and Clip-on Wearstrips in the Product Line chapter.

Angle and clip-on wearstrips are designed for use in applications where belt edge protection is needed or lateral product transfer is required. These strips attach to the frame without the need of fasteners.

Standard flat wearstrips are relatively thick, narrow, flat bars that are attached directly to the conveyor frame with plastic bolts and nuts in slotted holes. The slotted holes allow the wearstrips to freely expand and contract with temperature changes.

Flat finger-joint wearstrips are designed to overlap, providing continuous belt support without sharp edges. Flat finger-joint wearstrips are fastened in short lengths at the leading end only. Small gaps at the overlapping ends provide room for expansion and contraction.



A finger-joint wearstrips
B standard flat wearstrips
Figure 135: Flat wearstrips

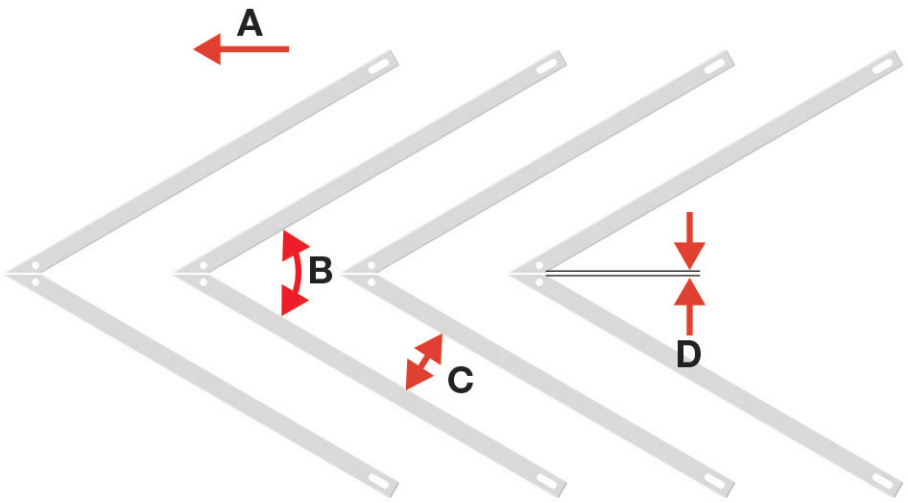
WEARSTRIP CONFIGURATION

- Arrange wearstrips in either a chevron or straight parallel pattern. See Chevron Pattern and Straight Parallel Pattern.
- Allow for thermal expansion and contraction when designing and installing wearstrips. See Accommodating Thermal Expansion and Contraction.
- Consider an anti-sag wearstrip configuration for tip-sensitive products. See Anti-Sag Wearstrip Configuration.
- Ensure the wearstrips do not interfere with the sprockets. See Avoiding Sprocket Interference.

CHEVRON PATTERN

In this configuration, wearstrips are placed in an overlapping chevron pattern. Compared to straight parallel wearstrips, a chevron pattern more evenly distributes wear and more evenly supports the belt. This pattern is a good choice for abrasive or heavily loaded applications. A chevron pattern also helps to remove debris from the belt bottom.

- Use the *Sprocket and Support Quantity Reference* table for the selected belt to determine the number of wearstrips required.
- Provide a minimum 0.4 in (10 mm) gap between the chevron points to reduce debris buildup.
- Reduce the space between adjacent chevrons to decrease wearstrip load and decrease unsupported belt area.

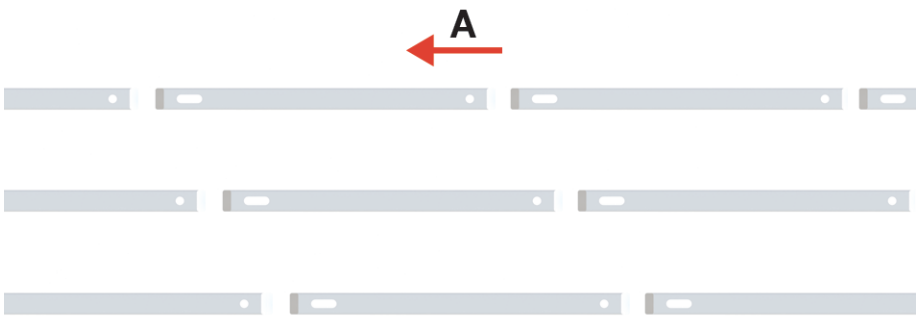


A run direction
B wearstrip angle: 20 degrees to 60 degrees
C conventional recommended spacing: 2 in (51 mm), maximum spacing: 5 in (127 mm)
D gap between chevron points: ≥ 0.4 in (10 mm)
Figure 136: Carryway wearstrips in chevron pattern

STRAIGHT PARALLEL PATTERN

Straight, parallel wearstrips are placed parallel with the belt run direction. This pattern is commonly used, but can wear grooves on the underside of the belt. Straight, parallel wearstrips increase belt stress and deflection because load and wear are not evenly distributed across the belt.

- Attach wearstrips to the frame with plastic bolts and nuts in slotted holes. This approach allows the wearstrips to expand and contract with temperature changes.
- Use the *Sprocket and Support Quantity Reference* table for the selected belt to determine the number of wearstrips required.

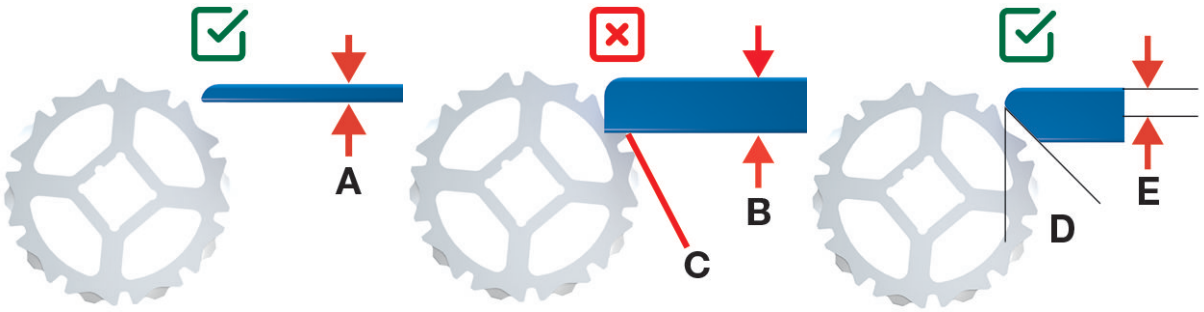


A run direction
Figure 137: Straight, parallel wearstrip pattern

AVOIDING SPROCKET INTERFERENCE

The recommended distance between the shaft centerline and the beginning of the carryway assumes the wearstrip height is not greater than 0.5 in (13 mm). Some product loads require a wearstrip height greater than 0.5 in (13 mm) but this additional height can cause sprocket interference.

- When wearstrip height is greater than 0.5 in (13 mm), use the following methods to avoid sprocket interference:
  - Position the wearstrips so the ends extend in between the sprockets. See Anti-Sag Wearstrip Configuration.
  - Chamfer the wearstrip ends. Use a 45-degree angle starting 0.5 in (13 mm) below the wearstrip top.



A wearstrip height: ≤ 0.5 in (13 mm)
B wearstrip height: > 0.5 in (13 mm)
C sprocket interference
D angle: 45 degrees
E 0.5 in (13 mm) below wearstrip top

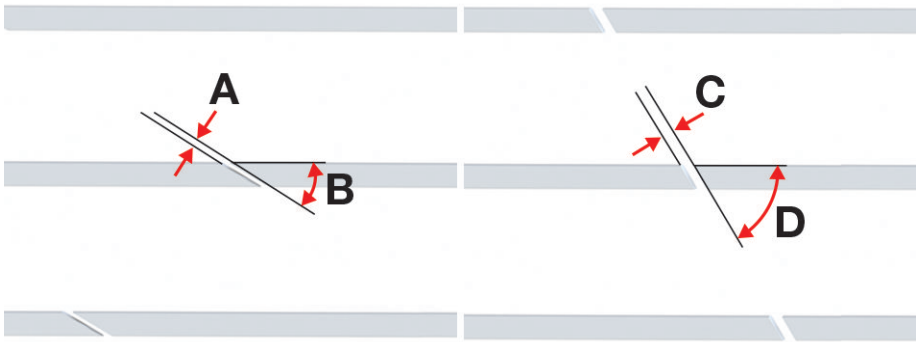
Figure 138: Chamfer wearstrips to avoid sprocket interference

ACCOMMODATING THERMAL EXPANSION AND CONTRACTION

Wearstrip materials expand and contract due to changes in temperature or moisture. It is important to accommodate these dimension changes when specifying wearstrip design and attachment methods.

For wearstrips supplied by Intralox, use the following guidelines to accommodate thermal expansion and contraction. For other wearstrips, contact your supplier for recommendations.

- At operating temperatures above 100°F (38°C):
  - Determine the clearance gap from thermal expansion calculations. See Thermal Expansion and Contraction for coefficients of expansion.
  - Bevel-cut the opposing wearstrip ends at a 60-degree angle from horizontal.
  - Stagger the wearstrip joining locations to enable smooth belt operation.
- At operating temperatures at or below 100°F (38°C):
  - Provide a clearance gap between wearstrips of 0.3 in (8 mm).
  - Bevel-cut the opposing wearstrip ends at a 30-degree angle from horizontal.

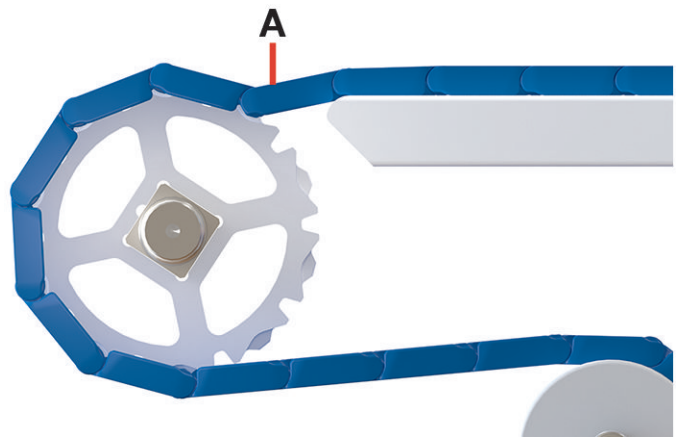


A clearance gap: 0.3 in (8 mm)
B 30-degree cut angle for operating temperatures ≤ 100°F (38°C):
C clearance gap determined using thermal expansion calculation
D 60-degree cut angle for operating temperatures > 100°F (38°C)
Figure 139: Wearstrip gaps and cut angles

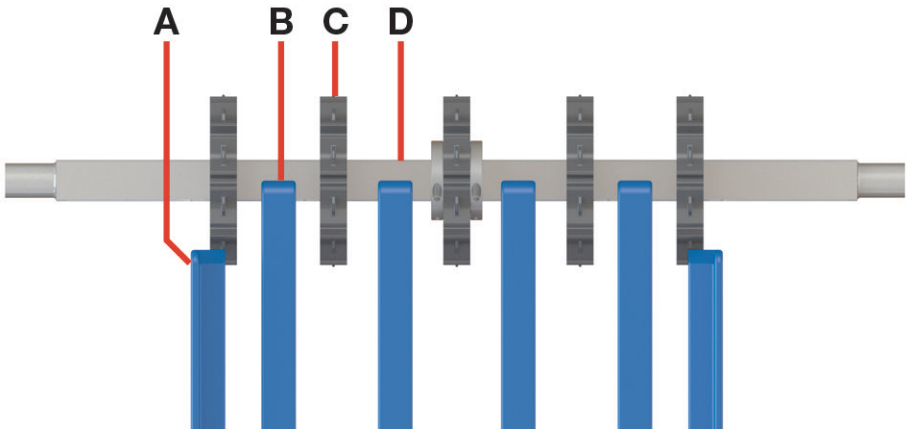
ANTI-SAG WEARSTRIP CONFIGURATION

When belt tension is not sufficient to support product near the conveyor ends, the belt can buckle and tall products can tip. An anti-sag wearstrip configuration can eliminate buckling.

- To prevent product tipping due to belt buckling, extend wearstrips between the sprockets to within 0.5 in (13 mm) of the shaft centerline.



A belts can buckle between wearstrip and sprocket
Figure 140: Belts can buckle near conveyor ends



A wearstrip ends at recommended location
B wearstrip extends between the sprockets
C sprocket
D shaft

Figure 141: Anti-sag wearstrip configuration

SOLID-PLATE CARRYWAYS

In a solid-plate carryway design, the belt slides over a continuous sheet of metal, UHMW-PE, or HDPE that extends the full belt width and below all impact zones.

- Use a solid-plate carryway in applications with heavy loads or high impacts, to provide continuous belt support.
- Consider adding slots, holes, or similar perforations to allow for drainage or passage of foreign material.

RETURNWAYS AND TAKE-UPS

Returnways on conveyors designed for use with Intralox modular plastic belts are generally exposed to low tension loads, but are important for proper conveyor function. Properly designed returnways will:

- Help create the back tension required to engage the drive sprockets.
- Provide storage to manage belt length changes.

Proper returnway design is critical for ensuring proper belt-to-sprocket engagement and minimizing belt maintenance requirements.

NOTE: On bi-directional and push-pull conveyors where return side tensions are high, special attention must be paid to the returnway design. For information about returnways for bi-directional and push-pull conveyors, contact Intralox Customer Service.

- Accommodate temporary changes in belt length during conveyor operation. See Belt Length Management.
- Provide adequate belt tension to ensure proper belt-to-sprocket engagement. See Back Tension.
- Consider adding a gravity or screw take-up if catenary sag alone does not provide adequate back tension. See Take-Ups.
- Select a returnway design appropriate for the conveyor length and application conditions. See Returnway Design Options.
- Ensure flights, buckets, and raised belt features are supported and protected from damage. See Support for Accessories and Textured Belts.

BELT LENGTH MANAGEMENT

An important function of the returnway is to accommodate belt length changes during conveyor operation. Belt length management is vital to maintain sufficient tension after the belt disengages from the drive sprockets.

Belts expand or contract due to temperature variations, temporary elongation while under load, and permanent elongation due to break-in and wear. A belt which increases in length can disengage from the drive sprockets if the returnway is not properly designed. A belt which contracts due to cold temperatures can cause over-tensioning and excessive shaft loads if the belt is not long enough to accommodate contraction.

TEMPERATURE VARIATIONS

Any significant change above or below the ambient temperature results in expansion or contraction of the belt. The amount of contraction or expansion depends on the belt material, the difference between operating and ambient temperature, and the overall belt length.

- Identify the expected ambient temperature of the application. Intralox assumes an average ambient temperature of about 70°F (21°C).
- To calculate expected thermal expansion and contraction, see Thermal Expansion and Contraction.

ELONGATION

All belts temporarily elongate when tension is applied. The amount of elongation depends upon the belt design, the material, the amount of tension (belt pull) applied, and the operating temperature.

Permanent belt length changes occur over time, as rods and module links rub together and wear. Over time, wear can deform a round hinge rod into a shape that looks like a vehicle camshaft. This camshaft-style hinge rod wear, along with rod hole deformation in the belt run direction, causes the belt length to increase. Significant length changes can result in sprocket disengagement.

Belts have a break-in period during the first several days to weeks of conveyor operation. Depending on the application and environment, break-in growth can range from 0.5% to 1% of total length.

- Frequently measure catenary sag and belt pitch during the break-in period.

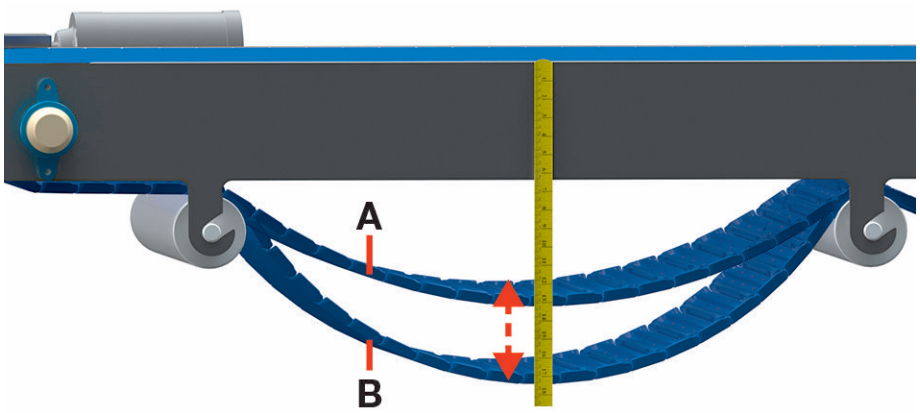
For more information about measuring belt-pitch and adjusting the belt length, contact Intralox Customer Service.

CATENARY SAG

Belts grow longer while a conveyor is running. This elongation is due to product load, temperature variations, and wear. One or more catenary sag sections in the conveyor returnway are required to accommodate these temporary length changes. During operation, these sections provide storage as the belt length increases.

For applications where significant length change is expected, other arrangements can be needed. For more information, see Returnway Design Options.

- Ensure the depth of the first catenary sag section after the snub support does not exceed 1–4 in (25–102 mm). Additional catenary sag decreases belt tension and can lead to sprocket disengagement.

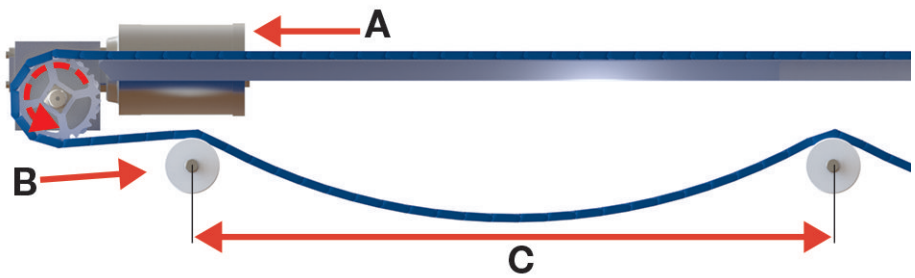


A catenary sag depth decreases when conveyor is not operating
B catenary sag depth increases when conveyor is operating and under load
Figure 142: Use catenary sag to manage temporary belt length changes

BACK TENSION

To ensure proper belt-to-sprocket engagement, adequate belt tension must be provided in the returnway. This tension is commonly referred to as *back tension*. The length and the depth of the first catenary sag section directly after the drive sprockets provide this back tension. Back tension increases as the catenary sag section length increases. Back tension also increases as catenary sag depth decreases.

It can be necessary to identify the length of belt within a catenary sag section, and the tension created by that belt section. Intralox can help calculate these values. Contact Intralox Customer Service for more information.



A adjusted belt pull (ABP)
B back tension
C first catenary sag section
Figure 143: Back tension

RETURNWAY DESIGN OPTIONS

End-drive conveyors shorter than 6 ft (1.8 m) usually do not require returnway support. The catenary sag between the shafts is sufficient for good operation if the sag depth is limited to a maximum of 4 in (102 mm).

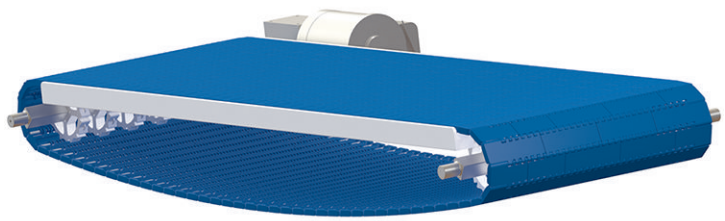


Figure 144: Short returnway

End drive conveyors longer than 6 ft (1.8 m) must accommodate temporary belt length changes. Catenary sag, or catenary sag combined with a slide bed are commonly used for this purpose. When catenary sag is not sufficient, a take-up can be used.

For most applications, a full catenary returnway provides low-tension control of temporary belt length changes and creates the back tension required to engage the drive sprockets. For more information about this design, see Full Catenary Returnways.

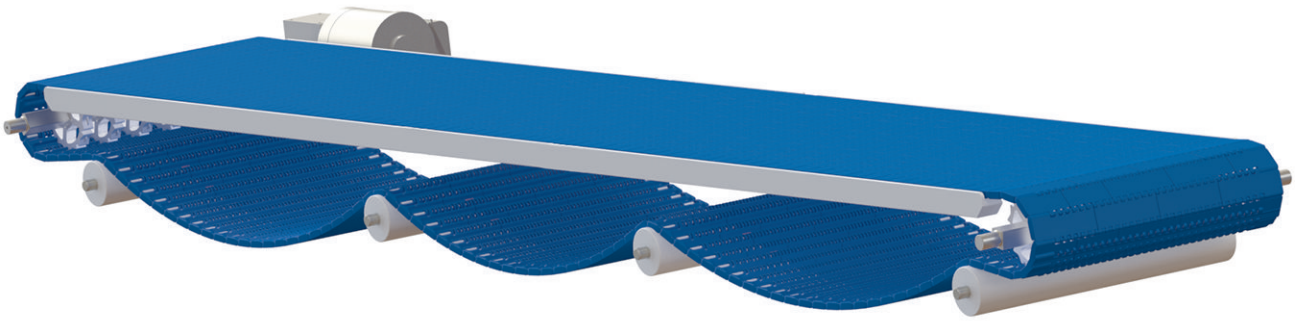


Figure 145: Full catenary returnway

A slide bed returnway can stabilize the belt and minimize resonance that causes catenary vibration on slow-speed conveyors. A slide bed returnway can also protect the belt from contact with objects or debris below the returnway. For more information about this design, see Slide Bed Returnways.

End drive and slide bed conveyors that do not provide sufficient catenary sag can use a take-up to ensure proper belt tension and storage. See Take-Ups.

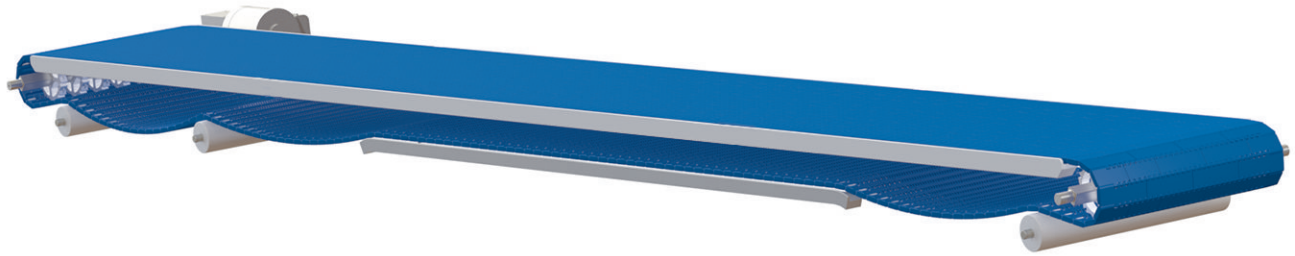
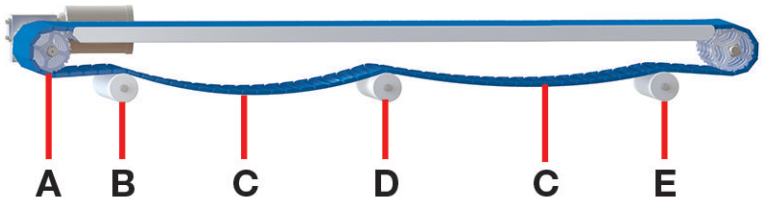


Figure 146: Slide bed returnway

FULL CATENARY RETURNWAYS

On conveyors longer than 6 ft (1.8 m) intermediate returnway supports are needed, but the belt must be unsupported for a significant part of the total length.

- For belts up to 1.07 in (27 mm) pitch, use returnway support rollers with a minimum diameter of 2 in (50 mm). For larger pitch belts, use returnway support rollers with a minimum diameter of 4 in (100 mm).
- Place the returnway supports 36 in to 48 in (900 mm to 1200 mm) apart. This distance combines with the first catenary sag section depth and the distance from the shaft to the snub support to provide the belt tension required for proper sprocket engagement.
- Place the snub support rollers 9 in to 18 in (229 mm to 457 mm) from the drive and idle shafts. Position the snub support roller so the belt wraps between 180 degrees and 210 degrees around the sprockets.
- Ensure the depth of each catenary sag section is between 1 in and 4 in (25 mm and 102 mm).

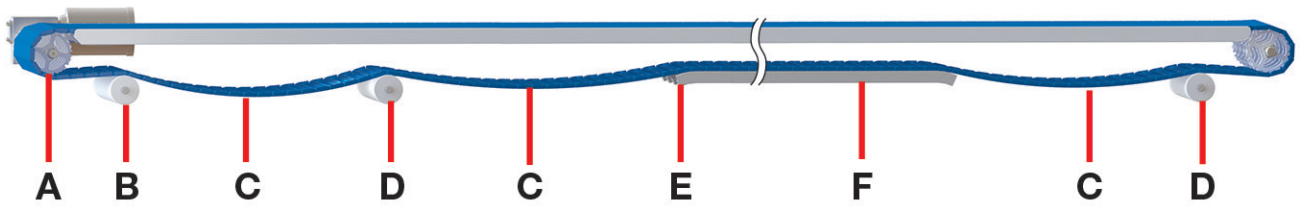


A drive shaft and sprockets
B snub support roller: 9 in to 18 in (229 mm to 457 mm) from shaft
C catenary sag section depth: 1 in to 4 in (25 mm to 102 mm)
D returnway support roller: 36 in to 48 in (900 mm to 1200 mm) apart

Figure 147: Catenary returnways

SLIDE BED RETURNWAYS

- For belts up to 1.07 in (27 mm) pitch, use returnway support rollers with a minimum diameter of 2 in (50 mm). For larger pitch belts, use returnway support rollers with a minimum diameter of 4 in (100 mm).
- Place the returnway supports 36 in to 48 in (900 mm to 1200 mm) apart. This distance combines with the first catenary sag section depth and the distance from the shaft to the snub support to provide the belt tension required for proper sprocket engagement.
- Place the snub support rollers 9 in to 18 in (229 mm to 457 mm) from the drive and idle shafts. Position the snub support roller so the belt wraps between 180 degrees and 210 degrees of wrap around the sprocket.
- After the snub roller at the drive end, provide a minimum of two catenary sag sections before the slide bed.
- Provide at least one catenary sag section after the slide bed.
- Ensure the slide bed is not longer than two-thirds of the conveyor length. The remaining one-third provides catenary sag required for belt storage. If the slide bed must be longer than two-thirds of the conveyor length, use a take-up to provide adequate back tension. See Take-Ups.
- Provide a lead-in radius for the slide bed. This radius prevents catchpoints that can cause belt damage. Ensure the radius arc is equal to or greater than the returnway support roller diameter.
- Ensure the depth of each catenary sag section is between 1 in and 4 in (25 mm and 102 mm).



A drive shaft and sprockets
B snub support roller: 9 in to 18 in (229 mm to 457 mm) from shaft
C catenary sag section depth: between 1 in and 4 in (25 mm and 102 mm)
D returnway support roller: 36 in to 48 in (900 mm to 1200 mm) apart
E slide bed lead-in radius: radius arc ≥ returnway support roller diameter
F slide bed: at least 7.5 ft (2.3 m) from drive sprockets; and ≤ two-thirds of conveyor length

Figure 148: Slide bed returnways

TAKE-UPS

When using a take-up:

- Ensure the shafts remain aligned. Screw take-ups introduce the risk of misaligned shafts, which can lead to belt tracking issues.
- Avoid belt overtightening. Overtightening reduces belt and sprocket life and increases shaft deflection.

GRAVITY TAKE-UPS

Gravity take-ups usually consist of a weighted (gravity) roller resting on the belt in the returnway. The roller weight creates the belt tension required to maintain proper sprocket engagement. A gravity take-up is most effective when placed near the drive end. Gravity take-ups are recommended for conveyors with any of the following conditions:

- Over 75 ft (23 m) long
- Over 50 ft (15 m) long with belt speeds over 150 ft/min (30 m/min)
- Spatial constraints, such as with overhead conveyors
- Belt speeds over 50 ft/min (15 m/min) with frequent starts under product loads greater than 25 lbf/ft^2 (1,197 N/m^2)
- Large temperature variations

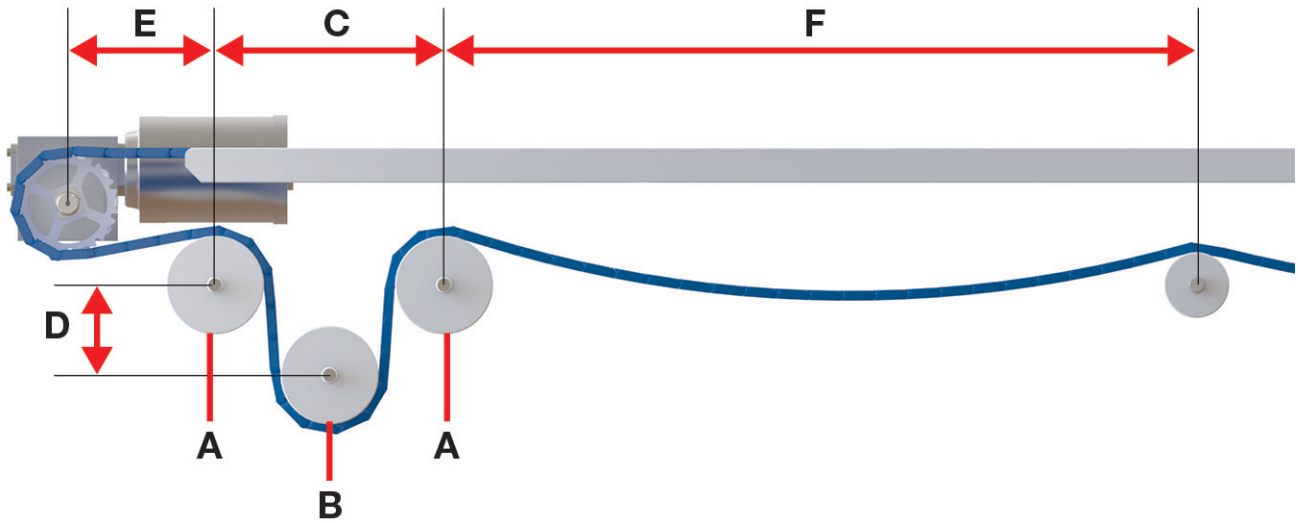
Use the following guidelines when designing conveyors with a gravity take-up:

- Use the recommended backbend roller diameter. See the following table for recommendations.
- Provide a gravity take-up roller with a diameter at least as large as the backbend roller diameter.
  - For belt pitches under 1.00 in (25.4 mm), provide a gravity take-up roller with a mass that generates a minimum back tension of 10 lbf/ft (146 N/m) of belt width. For most applications, this back-tension ensures proper sprocket engagement at 100% of allowable belt pull.
  - For belt pitches equal to or greater than 2.00 in (50.8 mm), provide a gravity take-up roller with a mass that generates a minimum back tension of 20 lbf/ft (292 N/m) of belt width. For most applications, this back-tension ensures proper sprocket engagement at 100% of allowable belt pull.
  - Intralox can help calculate back tension for your application. Contact Intralox Customer Service for more information.
- Provide enough distance between the backbend rollers to allow room for the gravity take-up roller.
- Ensure the distance between the gravity take-up roller centerline and backbend roller centerline is no less than three (3) times the belt pitch.

Recommended Backbend Roller Diameters

Belt Pitch		Minimum Roller Diameter	
in	mm	in	mm[a]
≤0.5	≤12.7	2	50
0.6 to 1	15.2 to 25.4	4	100
2	50.8	6	150
2.5	63.5	8	200

[a] Metric roller diameters are not an exact conversion of U.S. customary units.



A load-bearing backbend roller
B gravity take-up roller (can be retained with a swing arm or vertical slotted hole in conveyor frame)
C distance between backbend rollers
D centerline distance between the gravity take-up roller and backbend roller
E centerline distance between drive shaft and backbend roller: 9 in to 18 in (229 mm to 457 mm)
F centerline distance between backbend roller and returnway support roller: 36 in to 48 in (900 mm to 1200 mm)

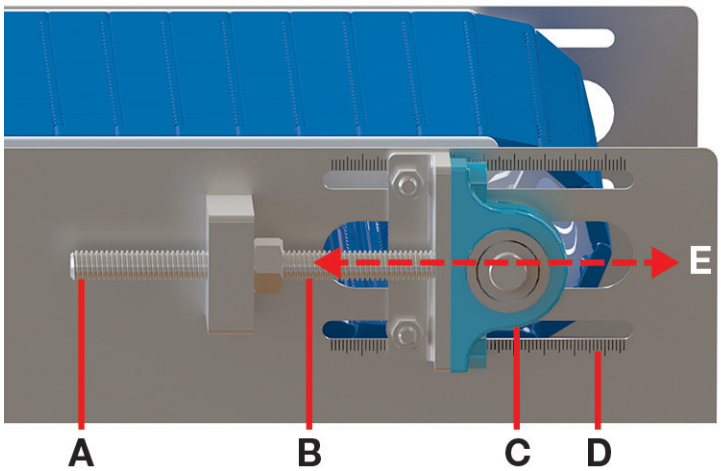
Figure 149: Gravity take-up

SCREW TAKE-UPS

Screw take-ups shift the position of one of the shafts by using adjustable machine screws. With a screw take-up, the shaft bearings are placed in horizontal slots in the conveyor frame. The machine screws are used to move the shaft within the horizontal slots, changing the length of the conveyor. Screw take-ups can be used to make minor adjustments to maintain proper catenary sag depth, but should not be used as primary length control devices.

When using a screw take-up:

- Ensure shafts are aligned after the conveyor length is adjusted.
- Ensure the belt is not overtightened. Overtightening reduces belt and sprocket life and increases shaft deflection. For more information, see Shaft Deflection.



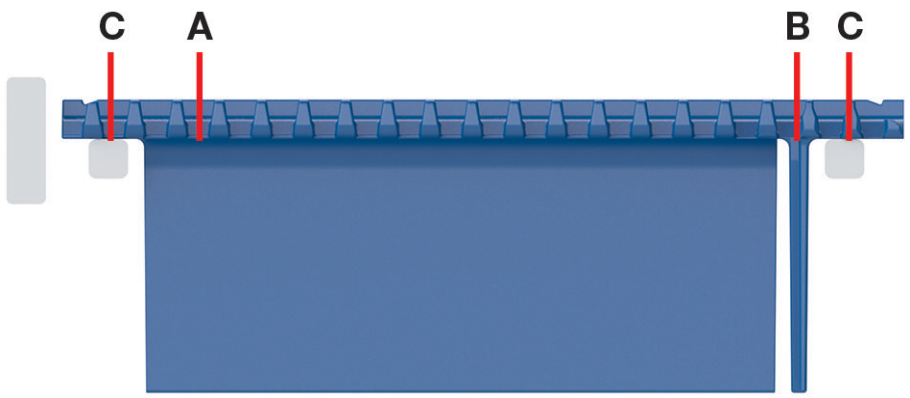
A adjustable machine screw
B horizontal slot
C shaft bearing
D adjustment gauge on both sides to verify shaft alignment
E longitudinal movement adjusts conveyor length

Figure 150: Screw take-up

SUPPORT FOR ACCESSORIES AND TEXTURED BELTS

Flights, buckets, sideguards require accommodation in the returnway. Friction Top, Nub Top, and similar belts with textured surfaces designed to enhance or reduce friction require similar accommodations.

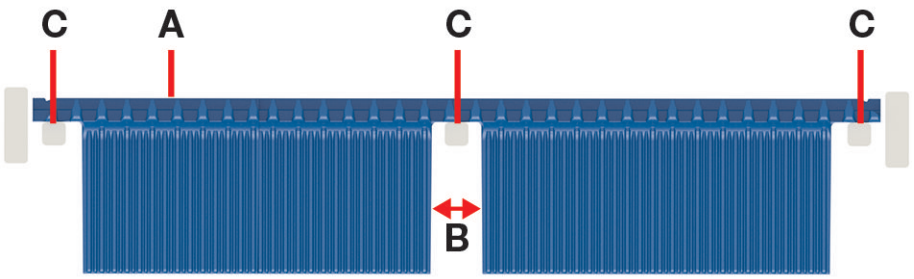
- Avoid rubbing contact between returnway components and any flights, buckets, sideguards, or textured belt surfaces.
- Prevent contact with floors or any components below the returnway.
- Use straight, parallel wearstrips at the belt edges to support belts with flights, buckets, or sideguards.
- For design requirements for inclining and declining conveyors, see Incline and Decline Conveyors.
- For more information about product containment belts and accessories, see Flights, Buckets, and Sideguards and Textured-Surface Belts.



A flight
B sideguard
C belt support wearstrips

Figure 151: Straight, parallel wearstrip at the belt edges

- Provide a center notch and an additional support wearstrip between flights and buckets when:
  - The belt pitch is less than or equal to 1.07 in (27.2 mm) and the belt width is greater than 18 in (457 mm).
  - The belt pitch is greater than 1.07 in (27.2 mm) and the belt width is greater than 24 in (610 mm).
  - If belt accessories cannot be notched due to the application requirements, contact Intralox Customer Service for design assistance.



A flighted belt
B center notch between flights
C belt support wearstrips

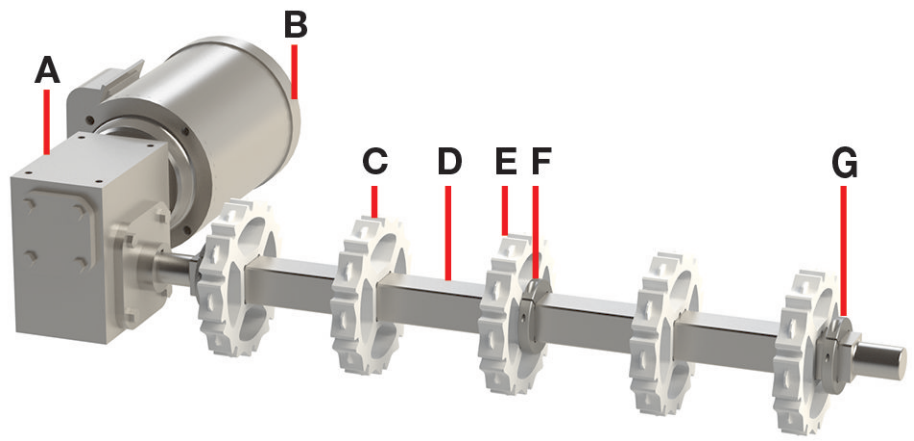
Figure 152: Center notch for wide belts

DRIVE SYSTEM

Drive systems for Intralox belts use plastic sprockets mounted on a square shaft, operated under low tension to positively drive the belt.

- Use CalcLab to identify and validate belt strength and selection of drive system components. For more information about CalcLab, see Additional Resources.

A typical drive system consists of the drive motor, gearbox, and the shaft and sprocket assembly on the conveyor drive end. Each component is important for proper conveyor function.



A gearbox
B drive motor
C sprocket
D square shaft
E center sprocket
F center sprocket retainer ring
G outer sprocket retainer ring (optional)

Figure 153: Drive system components

Use the following guidelines when designing drive systems:

- Whenever possible, use an end-drive design. See Drive Location.
- Ensure the selected shaft is large enough to absorb the expected deflection and torque load. See Shafts.
- Use the recommended size and quantity of sprockets. See Sprockets.
- Ensure the center sprockets are properly retained, and all other sprockets can move laterally along the shaft. See Sprocket Retention.
- Consider mechanical efficiency losses when determining power requirements. See Power Requirements.
- Use a soft-start electric motor, variable-frequency drive (VFD), or wet or dry fluid couplings. See Soft-Start Motors and Fluid Couplings.

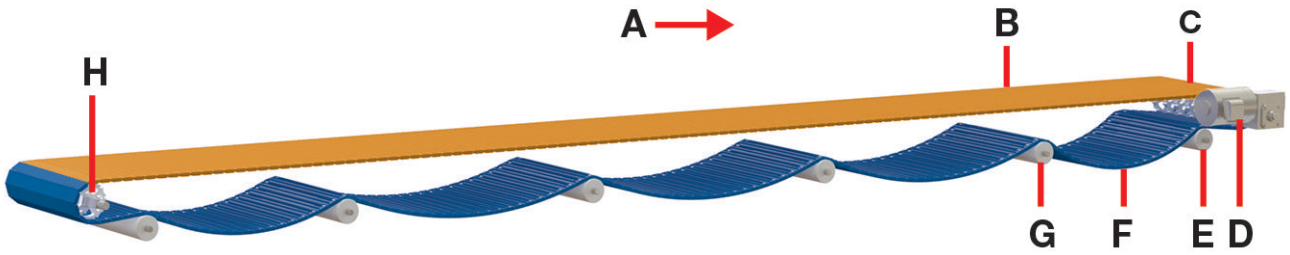
DRIVE LOCATION

For most applications, Intralox recommends an end-drive design, which uses a drive shaft located at the outfeed end. Center-drive designs can be used if an end-drive design is not possible, or if the conveyor must be bi-directional.

END DRIVE

On end-drive conveyors, the drive shaft is located at the outfeed end and a freely spinning shaft with rollers or sprockets is placed at the infeed end. The drive shaft pulls the belt through the carryway. Since the belt load typically peaks as the belt reaches the drive sprockets, about half of the belt is under tension during each belt revolution. Compared to center-drive conveyor belts, end-drive conveyor belts are exposed to less tension because the belt experiences less articulation under load. Less tension results in longer belt life.

- Use an end-drive design whenever possible to maximize belt life and minimize maintenance requirements.



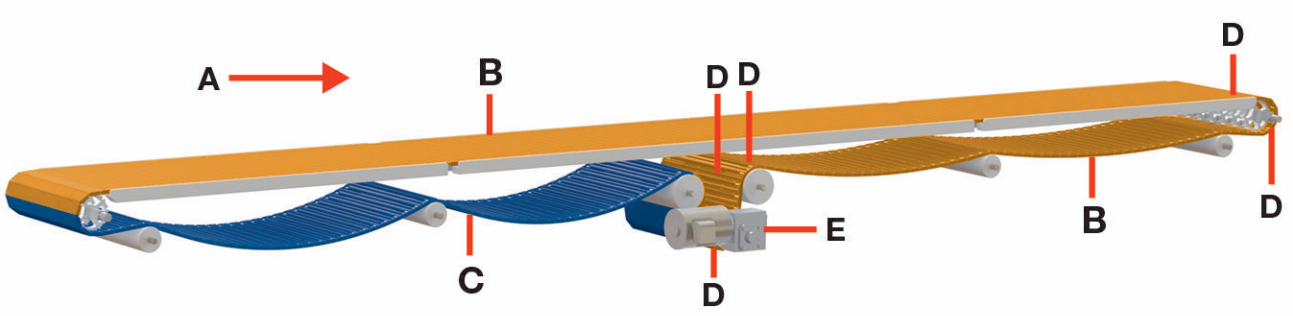
A run direction
B portion of belt under tension (shown in orange)
C one (1) high-tension articulation point
D drive motor
E snub support
F portion of belt not under tension (shown in blue)
G returnway support
H idle shaft and sprockets

Figure 154: Belt tension on end-drive conveyors

CENTER DRIVE

When it is not possible to locate the drive system at the outfeed end, or if the conveyor must be bi-directional, a center-drive design can be used. In a center-drive design, the drive is mounted in the returnway and freely spinning rollers or sprockets are placed at the infeed and outfeed ends. With a center-drive design, the belt load typically peaks as the belt reaches the drive sprockets. Because the drive sprockets are in the returnway, the belt is under tension through more than half of each belt revolution. As a result, center-drive designs have the following characteristics compared to end-drive designs:

- There is an increased need for proper catenary sag to achieve adequate back-tension and maintain sprocket engagement.
- The outfeed shafts on a center-drive conveyor are under twice the load compared to an end-drive conveyor. The increased load requires larger shafts and results in increased wear on the bearings. On a bi-directional conveyor, both end shafts are considered outfeed shafts.
- The belt is under tension through a portion of the returnway, between the conveyor outfeed and the drive motor.
- There is increased articulation under load, since the belt remains under tension through the conveyor outfeed, into the returnway, and onto the drive sprockets. The increased articulation accelerates wear of rods, belt hinges, and all returnway components.



A run direction
B portion of belt under tension (shown in orange)
C portion of belt not under tension (shown in blue)
D five (5) high-tension articulation points
E drive motor

Figure 155: Belt tension on center-drive conveyors

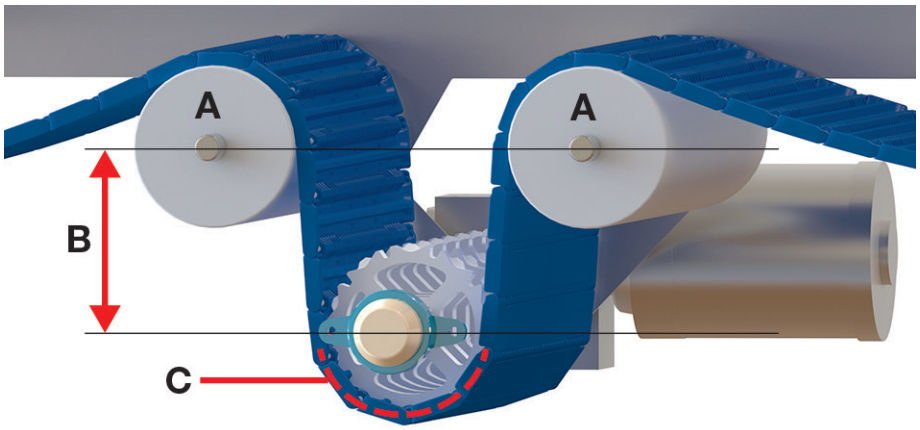
Load-Bearing Backbend Rollers

The load on backbend rollers begins as a horizontal load then changes to a vertical load. The result is a vector load that is higher than the belt tension. To accommodate this vector load:

- Use the recommended roller diameters provided in the following table. Smaller rollers wear faster, leading to roller distortion and belt misalignment.
- Provide bearings for all load-bearing backbend rollers.
- Ensure shafts are properly sized.
- Ensure the distance between the drive shaft centerline and the backbend roller centerline is a minimum of three times the belt pitch.
- Place the backbend rollers so the belt wraps 180 degrees around the sprockets.

Recommended Backbend Roller Diameters			
Belt Pitch		Minimum Roller Diameter	
in	mm	in	mm[b]
≤0.5	≤12.7	2	50
0.6 to 1	15.2 to 25.4	4	100
2	50.8	6	150
2.5	63.5	8	200

[b] Metric roller diameters are not an exact conversion of U.S. customary units.



A backbend roller (see preceding table for diameter recommendations)
B minimum of 3× belt pitch
C belt wraps 180 degrees around sprockets
Figure 156: Load-bearing backbend roller configuration

SHAFTS

Shaft design and the relationship between shaft design and belt pull are critical aspects of conveyor design. Use the following guidelines to design shafts:

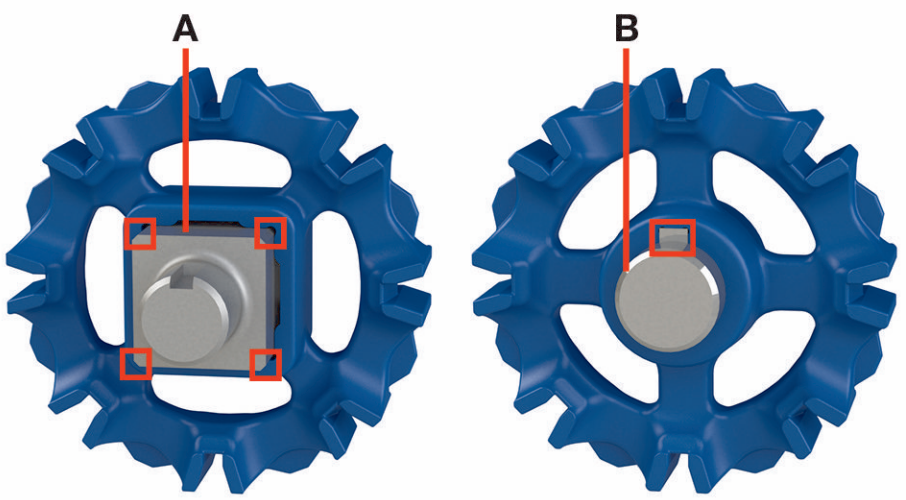
- Use square shafts whenever possible. See Shaft Selection.
- Use CalcLab to determine the proper shaft size and material for your application.
- Ensure shaft deflection and torque are within acceptable limits. See Shaft Deflection and Torque Load.

SHAFT SELECTION

Intralox can supply square shafts machined to your specification. For more information, see Square Shafts in the Product Line chapter.

Square shafts provide maximum efficiency in driving the belt. Square shafts have many benefits:

- Positive transmission of torque without the need for keys and keyways.
- Four contact points to transmit torque.
- Smooth lateral sprocket movement along the shaft, as the belt expands or contracts due to temperature changes.
- Accommodation of the different lateral expansion characteristics of the belt and shaft materials.



A square shaft
B round shaft
Figure 157: Square shafts have four contact points to transmit torque

Alternatives to square shafts include round shafts, rollers, and scroll idlers.

Round shafts are recommended on the infeed end for conveyors with two belts running side-by-side on one shaft.

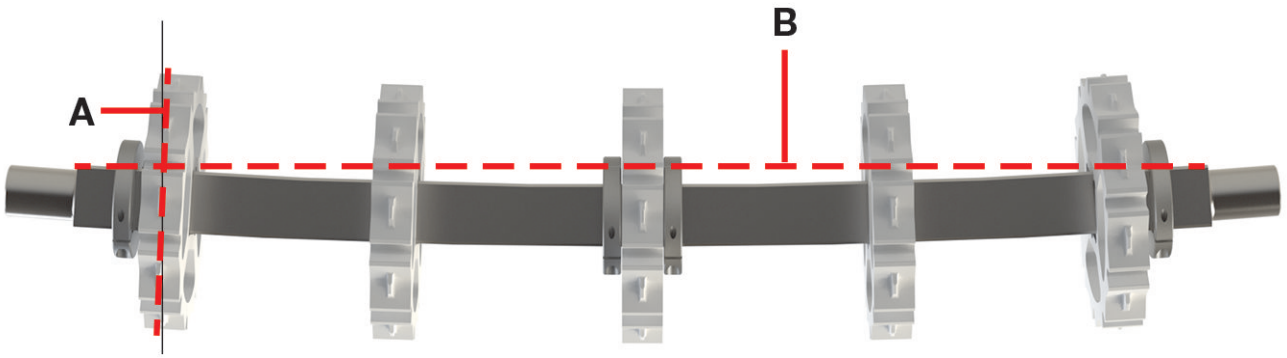
- In applications with multiple belts on one shaft, use a round idle shaft with sprockets keyed on the shaft for only one belt.
- Leave the remaining sprockets unkeyed, to freely spin around the round shaft. This approach mitigates the risk of belt-to-sprocket disengagement if the belts elongate at different rates.

For more information about including round shafts, rollers, and scroll idlers in your design, contact Intralox Customer Service.

SHAFT DEFLECTION

Shafts act as beams supported by bearings. Shafts are subjected to stress by belt tension transmitted through the sprockets. If shafts are not properly designed, this stress can result in excessive shaft deflection or shaft failure. Excess shaft deflection causes sprocket misalignment and improper belt-to-sprocket engagement.

- Use CalcLab to calculate deflection, or contact Intralox Customer Service for assistance.
- Ensure deflection of both the drive shaft and idle shaft is within acceptable limits:
  - For end-drive conveyor drive and idle shafts, ensure deflection is less than or equal to 0.10 in (2.5 mm)
  - For all center-drive conveyor shafts, ensure deflection is less than or equal to 0.22 in (5.6 mm). The greater deflection is acceptable for center-drive conveyors because the tension load on the sprockets is greater and more uniformly distributed.



A sprocket misalignment
B shaft deflection
Figure 158: Excessive shaft deflection (top view)

Intermediate Bearings to Reduce Deflection

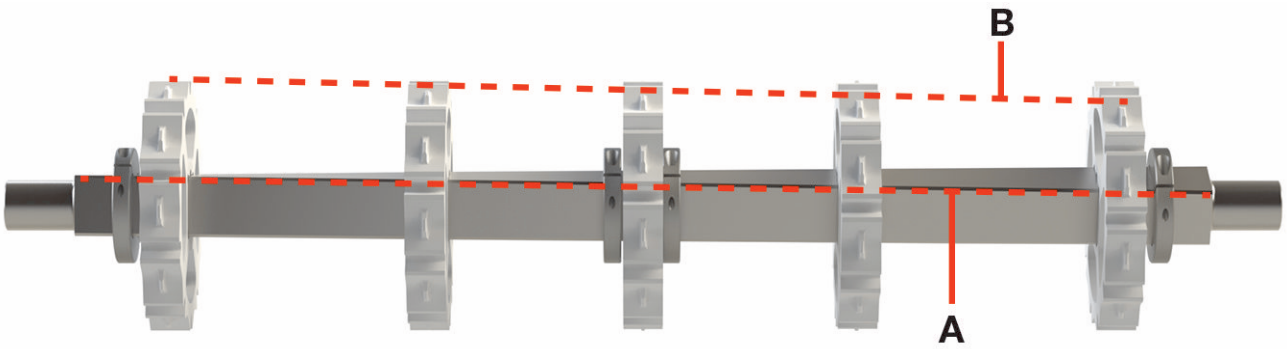
For applications with wide belts or heavy loads, one or more additional bearings can be used to reduce deflection to acceptable levels.

- Use CalcLab to calculate deflection when using more than two bearings.
- When using intermediate bearings, select sprockets with the largest practical diameter. Larger sprockets create space for the bearings to fit.
- For low speed, non-abrasive applications, a static shoe support can be used instead of an intermediate bearing.

TORQUE LOAD

Drive shafts must be large enough to absorb the expected torque load. Belt pull, acting through the sprockets, causes torsional or twisting load on the drive shaft. If shafts are not properly designed, twisting can lead to shaft failure. Shaft twisting can cause many issues, including:

- Uneven belt pull across the sprockets
- Sprocket disengagement
- Belt and sprocket damage
- Increased risk of foreign material contamination



A shaft twisting
B misaligned sprockets
Figure 159: Shaft twisting

- Use CalcLab to calculate the shaft strength needed to transmit the required torque, or contact Intralox Customer Service for assistance.
- Ensure the selected shaft is large enough to absorb the expected torque load. See Table 4: Maximum Recommended Torque on Drive Shaft in the Formulas and Tables chapter.
- If a particular shaft size is desired but the calculated torque exceeds the recommendation for that shaft, recalculate the torque using a smaller diameter sprocket if the application allows.
  - Sprocket size directly affects the relationship between belt pull and drive shaft torque. Larger sprockets apply more torque to the shaft and motor when compared to smaller sprockets at the same belt pull.

SPROCKETS

Sprockets come in different styles, materials, and sizes. Consider all aspects of a sprocket when designing a conveyor drive system.

Belt speed pulsates as belt modules engage with sprockets. The variation in speed is inversely proportional to the number of teeth on the sprocket. For example, a belt driven by a six-tooth sprocket has a pulsating speed variation of 13.4%, while a belt driven by a 19-tooth sprocket has a variation of only 1.36%. Belt speed pulsation is caused by chordal action, which is the vertical movement of a belt as it wraps around sprockets. For more information, see Chordal Action.

The required sprocket quantity depends on belt width and other factors. A recommended minimum number of sprockets for each series is provided in the Product Line chapter. These recommendations are minimums and do not include application product loads. Greater product loads often require more sprockets.

- In applications where product tipping is a concern, or where smooth, even speed is critical, select sprockets with the maximum number of teeth available.
- Ensure the sprocket quantity is appropriate for the application. Use CalcLab or contact Intralox Customer Service for assistance.
- Use an odd number of sprockets whenever possible. This approach ensures an easily identifiable center sprocket for consistent locking and proper belt tracking.

SPROCKET RETENTION

It is necessary to laterally retain one sprocket on both the drive and idle shafts. The locked sprockets provide the positive tracking necessary to keep the belt properly positioned within the conveyor frame. All other sprockets must be allowed to move laterally, to accommodate thermal expansion differences between the belt and other components.

Some applications require hold down wearstrips to maintain belt position. Sprocket retention is not needed when hold down wearstrips are used, since the wearstrips maintain lateral belt position.

- Use the recommended location for the locked sprocket. See Locked Sprocket Position on Shaft.
- In general, lock the sprocket on or next to the belt centerline. When only two sprockets are used, lock the sprocket closest to the drive journal.
  - Retaining components are available for various shaft sizes, belt loads, and hygienic needs. For product information, see Retainer Rings and Center Sprocket Offset and Sprocket Spacers in the Product Line chapter.
- Ensure the locked sprockets on the idle and drive shaft are aligned with each other.
- Optionally, place retainer rings on the outer side of the outer sprockets to prevent unwanted sprocket migration past the belt edges.

POWER REQUIREMENTS

For formulas to determine the power required to drive the belt, see Belt Selection Instructions in the Product Line chapter. Calculated belt power does not include the power required to overcome mechanical or other inefficiencies in the system. Use the following table to identify mechanical efficiency losses in your design.

Average Mechanical Efficiency Losses									
		Gear Reducers							
		Spur And Helical Gears			Worm Gears				
Ordinary Sleeve Bearings	Ball Bearings	Single Reduction	Double Reduction	Triple Reduction	Single Reduction	Double Reduction	Roller Chains	V Belts	Hydraulic Power Systems
2% to 5%	1%	2%	4%	5%	5%	10% to 20%	3% to 5%	2% to 4%	Consult the manufacturer.

Use the following formula to determine the required motor power:

Formula 12:

$$HP = \frac{A}{100 - B} \times 100$$

where:
HP = required motor horsepower
A = belt drive power
B = total of all average mechanical efficiency losses

SOFT-START MOTORS AND FLUID COUPLINGS

Rapid starts of high-speed or loaded conveyors shortens belt and sprocket life. Rapid starts also have negative effects on the entire drive train. The use of soft-start electric motors, VFDs, or fluid couplings greatly reduces these negative effects.

- When the motor power exceeds 1/4 horsepower per foot of belt width (612 watts per meter), always use a soft-start electric motor, VFD, or wet or dry fluid couplings.

IDLE END

In many applications, pipe rollers supported by stub shafts can be used instead of an idle shaft and sprockets. These pipe rollers can be considerably stiffer than a solid square shaft of the same length. For example:

- A 4 in (102 mm) schedule 40 pipe has more than twice the stiffness of a 2.5 in (64 mm) square steel shaft.
- A 6 in (152 mm) schedule 40 pipe has more than twice the stiffness of a 3.5 in (89 mm) square steel shaft.

In heavily loaded applications with wide belts, the use of rollers instead of an idle shaft and sprockets can eliminate the need for intermediate bearings to reduce shaft deflection. Flanging or spooling on the rollers ends can be used to retain the belt laterally.

Scroll idlers can also be used in place of idle sprockets. Scroll idlers help remove debris from the returnway. For more information, see Scroll Idlers in the Product Line chapter.

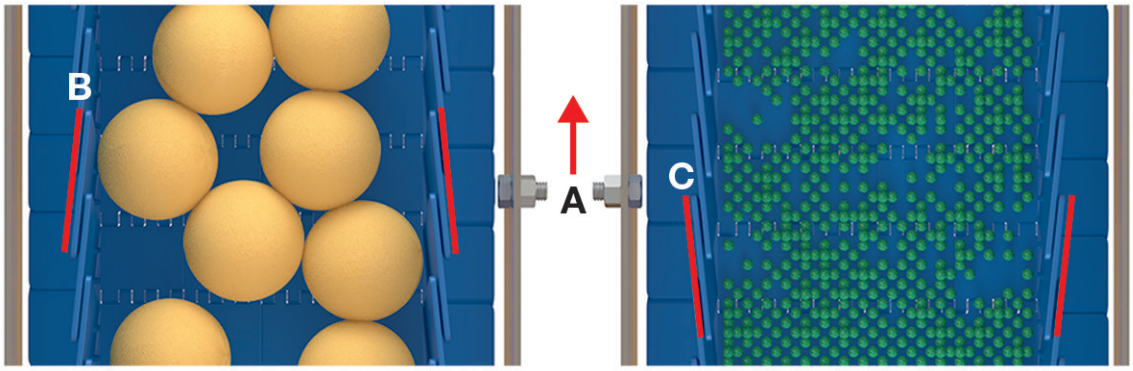
- Use an idle shaft and sprockets whenever possible. Sprockets promote belt tracking.
- If sprockets are not used, provide edge containment.

PRODUCT CONTAINMENT

Flights, sideguards, and similar product containment accessories must be accommodated throughout the conveyor, and particularly in the returnway. Friction Top, Nub Top, and similar belts with textured surfaces designed to enhance or reduce friction also require accommodation and are not compatible with all conveyor designs.

FLIGHTS, BUCKETS, AND SIDEGUARDS

- Provide a backbend radius of 12 in to 18 in (305 mm to 457 mm). If considering a smaller backbend radius, contact Intralox Customer Service.
- Ensure flight spacing is compatible with the backbend radius.
- Provide proper returnway belt support. See Support for Accessories and Textured Belts.
- Ensure the entire belt path is free of catchpoints that can damage flights, buckets, and sideguards.
- Ensure there is enough clearance between static sidewalls and flights.
- For sideguards, consider whether product-friendly or conveyor-friendly orientation is needed.
  - Product-friendly orientation is standard. This approach prevents product loss but can create catchpoints that can damage sideguards.
  - Conveyor-friendly orientation avoids catchpoints but can increase product loss.



A run direction
B conveyor-friendly orientation: leading edge of sideguard is inward, toward product
C product-friendly orientation: leading edge of sideguard is outward, toward conveyor frame
Figure 160: Sideguard orientation

TEXTURED-SURFACE BELTS

Friction Top, Nub Top, and similar belts with textured surfaces designed to enhance or reduce friction have an increased risk of accelerated belt wear and product damage during transfer on and off the belt. Use the following guidelines to minimize these risks:

- Avoid using textured-surface belts in applications where product accumulates. Friction between the product and a textured-surface belt is deliberately high, resulting in high flow pressure and increased belt pull.
- Avoid sliding side transfers when using textured-surface belts with sensitive products that are easily damaged. Use end-to-end transfers at both the infeed and outfeed ends.
- Design the returnway to avoid rubbing contact with textured-surface belts. Avoid using a slide bed returnway design. For more information, see Support for Accessories and Textured Belts.

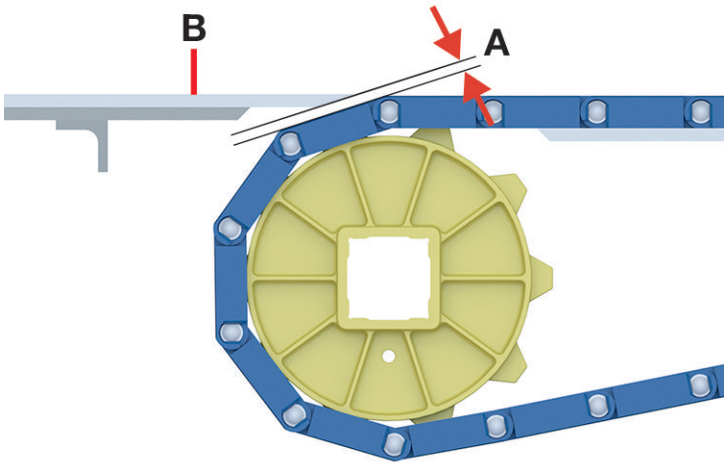
TRANSFERS

All conveyor designs require careful attention to ensure successful product transfer on and off the belt. Applications with tight-transfer requirements, or 90-degree transfers have additional design requirements.

DEAD PLATE GAP

Most conveyors require a gap at each transfer point to accommodate chordal action. For more information about chordal action, see Chordal Action.

- For belts without finger transfer plates, provide a gap at the transfer point onto the dead plate. Gap dimensions are provided in the dead plate gap table for the selected belt series in the Product Line chapter.
- At the infeed end, position the dead plate 0.03 in (1 mm) above the belt surface.
- At the outfeed end, position the dead plate 0.03 in (1 mm) below the belt surface.
- If the application requires continual contact between the tip of the dead plate and the belt, use a hinged mounting bracket to attach the dead plate. This approach allows the dead plate to move, but does result in slight oscillation which can cause products to tip.



A dead plate gap
B dead plate
Figure 161: Dead plate gap

FINGER TRANSFER PLATES

Intralox Raised Rib belts and matching finger transfer plates are a highly efficient, low-maintenance transfer system currently used in many container handling applications.

Proper configuration of finger transfer plates is essential for trouble-free service and long belt life. Installation is particularly important in applications where belts are subjected to high temperature variations and significant thermal expansion.

- In applications with wide belts and large temperature variations, ensure expansion and contraction are with limits. See Temperature Effects on Finger Transfer Plates for more information.
- Drill and tap the metal plate support angle used to secure the finger transfer plates to the conveyor frame for 1/4–20 (metric size M6) screws. Accurate drilling and tapping are important.
- For an odd number of finger transfer plates, straddle the centerline. For an even number of plates, position the plates from the belt centerline.
- Ensure the finger transfer plate is level with the belt +0.03 in (1 mm) -0.00 with the hinge rod at top dead center.
- For series-specific dimensional requirements, see *Dimensional Requirements for Finger Transfer Plate Installation* for the selected series.

TEMPERATURE EFFECTS ON FINGER TRANSFER PLATES

As temperature varies, belt widths change in proportion to the magnitude of the temperature change. To ensure proper finger transfer plate operation, perform the following check:

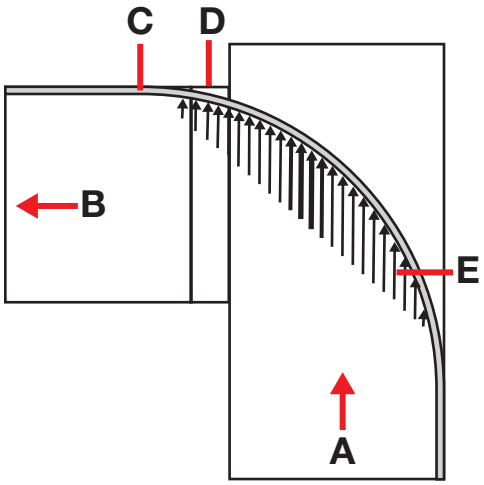
1. Determine the maximum expected change in temperature from ambient.
2. Multiply the maximum temperature change by the belt width.

3. If the calculated value is greater than the value provided for the selected belt series, contact Intralox Customer Service for guidance.

NOTE: For temperature effect values for the selected belt, see the selected belt in the Product Line chapter.

90-DEGREE CONTAINER TRANSFERS

For 90-degree transfer of beverage containers from one conveyor to another, full-radius guide rails with dead plates are commonly used. A dead plate spans the space between the two conveyors. With this rail shape, containers exert high pressure on the rail and on each other, often resulting in container damage.

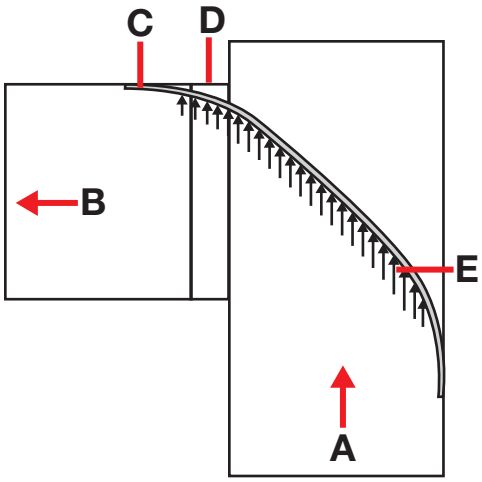


A delivery conveyor run direction
B receiving conveyor run direction
C continuous guide rail
D dead plate
E high-pressure forces on guide rail (longer, thicker arrow = increased pressure)

Figure 162: Conventional full-radius guide rail contour with excessive container pressure force buildup

PARABOLIC GUIDE RAILS

Compared to a full-radius guide rail, a parabolic guide rail provides better distribution of container pressure forces. The following figure shows the forces are more evenly distributed. This approach results in significantly less potential for container damage along the outer rail. However, an excessively large dead area, which can strand containers, arises along the inner parabolic guide rail contour.

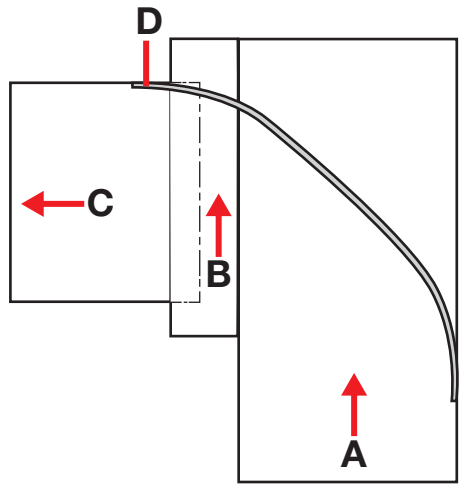


A delivery conveyor run direction
B receiving conveyor run direction
C parabolic guide rail
D dead plate
E high-pressure forces on guide rail (longer, thicker arrow = increased pressure)

Figure 163: Parabolic guide rail contours

ONEPIECE LIVE TRANSFER BELTS

ONEPIECE Live Transfer belts provide a solution to the dead area problem. ONEPIECE Live Transfer belts run in the same direction as the delivery conveyor. This approach replaces the dead plate, enabling continuous container movement and eliminating stranded containers.



A delivery conveyor run direction
B ONEPIECE Live Transfer belt
C receiving conveyor run direction
D continuous guide rail

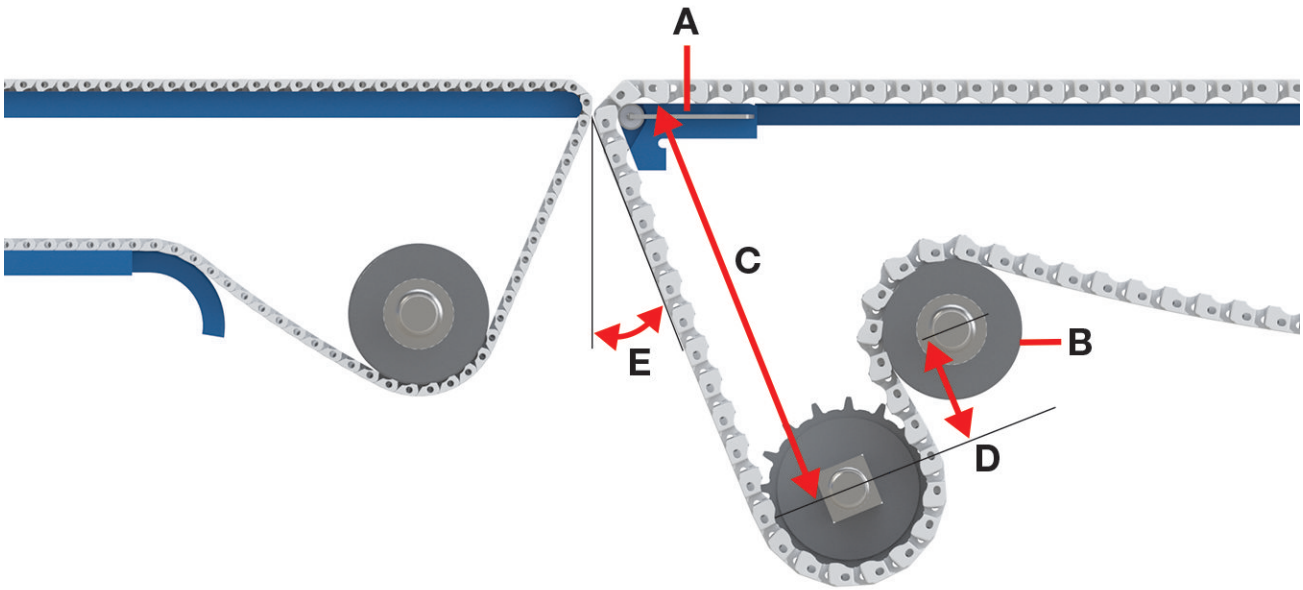
Figure 164: Parabolic guide rail with ONEPIECE Live Transfer belt

For information on ONEPIECE Live Transfer belts, see the selected series in the Product Line chapter or contact Intralox Customer Service.

TIGHT-TRANSFER METHODS

Dynamic nose-rollers and static nosebars are often used in tight-transfer applications. Increased belt hinge movement and increased tension as a belt moves around a nose-roller or nosebar can lead to accelerated wear on the belt and rods. This increased tension is a function of the friction between the belt and nosebar and the angle of wrap between the belt and the nosebar. Use the following guidelines to minimize these impacts:

- Select an acetal belt and abrasion resistant nylon rods if the application allows. Intralox can recommend an appropriate material for your application. Contact Intralox Customer Service for more information.
- Use a nose-roller rather than a nosebar whenever possible. Always use a nose-roller for high-pressure or high-speed applications.
  - Intralox offers a Dynamic Nose-Roller for certain belts. See Dynamic Nose-Rollers or contact Intralox Customer Service for more information.
  - When designing a nose-roller, consult your bearing supplier to identify bearings that are appropriate for the expected RPM and applied forces.
- If using a nosebar, select a material that provides the lowest possible sliding friction between the belt and nosebar. Lower friction reduces belt tension. A nosebar is often exposed to a combination of high contact pressure and high belt speed. The nosebar material must withstand this combination of pressure and speed.
  - Use a wear-resistant material such as oil-filled nylon.
  - Consult with your material supplier to ensure the pressure-velocity (PV) value of the selected material is appropriate for your application.
- Use the recommended conveyor frame dimensions. See Frame Dimensions.
- Minimize the amount of belt wrap around the nose-roller or nosebar. Place the shaft so the belt approaches or leaves the nosebar or nose-roller at the recommended angle. Larger angles increase wear on rods and rod holes. See the following table for return angle recommendations.
- Position the load-bearing roller to provide exactly 180 degrees of belt wrap around the drive sprockets.
- Use the recommended dimensions and distances in the following table.
  - Detailed conveyor design guidelines are available for certain belts. Contact Intralox Customer Service for more information.
  - For series not listed in the table, contact Intralox Customer Service.



A Dynamic Nose-Roller
B load-bearing roller
C distance between nose-roller top surface and shaft centerline
D distance between shaft centerline and load-bearing roller centerline
E return angle

Figure 165: Typical tight-transfer infeed and outfeed configuration

Recommended Dimensions for Conveyors with Dynamic Nose-Rollers or Static Nosebars									
Series	Nose-Roller or Nosebar (A) Minimum Diameter[a]		Load-Bearing Roller (B) Minimum Diameter		Minimum Distance (C) Between Nose-Roller Top Surface and Shaft Centerline		Centerline Distance (D) Between Shaft and Load-Bearing Roller		Return Angle (E)[b]
	in	mm	in	mm	in	mm	in	mm	degrees
S560	0.236	6	2	51	<12	<304	4	100	20–25[c]
S1000	0.75[d]	19[d]	3	76	<12	<304	<4	<100	20
S1100	0.875	22	3	76	<12	<304	<4	<100	20–25
S1500	0.5	12.7	3	51	<12	<304	<4	<100	20–25
S2300	0.75[d]	19[d]	4	102	<12	<304	<4	<100	20
S2400 without hold down guides	1.375	34.9	4	102	<12	<304	<4	<100	20
S2400 with hold down guides	1.5	38.1	4	102	<12	<304	<4	<100	20

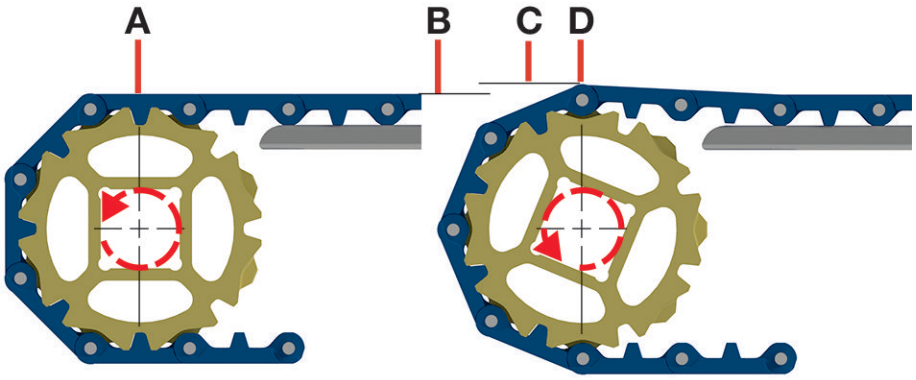
[a] For belts not listed, use the smallest sprocket diameter for the nosebar diameter.
[b] Contact Intralox for application-specific recommendations.
[c] 20 degrees is ideal.
[d] Use an Intralox Dynamic Nose-Roller with S1000 and S2300 belts.

ADDITIONAL DESIGN CONSIDERATIONS

- Always identify a belt and accessories before designing the conveyor frame. For belt selection guidelines, see Belt Selection Process.
- Consider the effects of chordal action when selecting a belt and sprockets. See Chordal Action.
- If the operating temperature differs from the ambient temperature, consider thermal expansion and contraction when designing the conveyor. See Dimension Changes.
- Consider the effects of speed and adapt the conveyor design as needed for high-speed applications. See Belt Speed.
- For abrasive applications, use the recommended guidelines to minimize wear to belts, sprockets, and other components. See Abrasion.
- In high-impact applications, protect the belt and wearstrips from deflection and damage. See High-Impact Applications.
- Consider the expected exposure to cleaning, sanitation, or other chemicals when selecting materials. See Chemical Damage.

CHORDAL ACTION

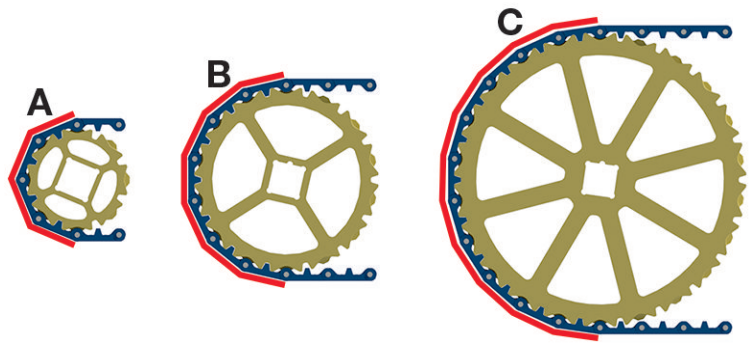
Chordal action is the vertical movement of a belt as it wraps around the sprockets on an end-drive conveyor. As each belt row engages the sprockets, the row rises when the center of the belt hinge is at the top of the sprockets (D). The belt row returns to horizontal when the center of a module is at the sprocket center (A), then drops below horizontal as the module center passes the sprocket center.



A module center at sprocket center
B belt at horizontal
C belt above horizontal
D belt hinge center at sprocket center

Figure 166: Chordal action

Chordal action is greatest when a large pitch belt is combined with small pitch diameter sprocket, as shown in the following figure. On a small sprocket, a belt articulates (bends) more and the chordal action is greatest. The same belt articulates (bends) less when combined with a larger sprocket.



A large pitch belt with small pitch sprocket = most articulation
B large pitch belt with medium pitch sprocket = less articulation
C large pitch belt with large pitch sprocket = least articulation
Figure 167: Impact of sprocket size

Chordal action contributes to belt vibration, increases the potential for product tipping, and increases articulation wear on belt hinges and rods. Use the following guidelines to minimize chordal action on end-drive conveyors:

- To reduce chordal action, select the sprocket with the largest pitch diameter. Use CalcLab to calculate expected torque for the selected sprocket. For more information about torque, see Torque Load.
- Consider an anti-sag wearstrip configuration for better support at transitions. See Anti-Sag Wearstrip Configuration.

DIMENSION CHANGES

The following guidelines provide general information about thermal expansion and contraction. For information about changes in dimension from other causes, see Belt Material Growth. For specific material properties, see the belt and sprocket material information at the beginning of the Product Line chapter.

THERMAL EXPANSION AND CONTRACTION

With few exceptions, the dimensions of all substances increase as temperature increases and contract as temperature decreases. Since plastics expand and contract rather significantly, thermal expansion and contraction must be considered in a conveyor design whenever operating temperatures differ from ambient temperature.

Proper conveyor design can help accommodate thermal expansion and contraction. Conveyors that do not accommodate these dimension changes have increased risk of shortened belt life, increased risk of belt wear, and increased need for belt maintenance.

- To calculate expected dimension changes due to thermal expansion or contraction, use CalcLab or see Thermal Expansion and Contraction in the Product line chapter.
- Ensure the catenary sag in the returnway is sufficient to absorb the increase in belt length. See Returnways and Take-Ups.
- Provide side clearance, particularly on wide belts, to prevent interference with the side structure. See D Drive Dimension.
- In low temperature applications, ensure the conveyor frame fully supports the belt while cold, but does not interfere at ambient temperatures.

BELT SPEED

Faster belts speeds increase belt and sprocket wear and increase belt vibration. Vibration, especially in the returnway, can lead to sprocket disengagement. Certain belts, conveyor designs, and components, such as nose-rollers, nosebars, and hold down guides, can require slower speeds.

For all conveyor designs, increased belt speed leads to:

- Increased product loss or damage, depending on product characteristics
- Increased risk that the belt snags on catchpoints
- Increased belt movement in the returnway
- Unwanted conveyor movement
- Increased noise during conveyor operation
- Unwanted changes to activated or passive roller function

Radius belts have specific speed recommendations. Intralox can help determine the best speed for your radius application. Contact Intralox Customer Service for more information.

- For belt speeds of 150 fpm (46 mpm) or greater, use edge bearings or edge bearing belts.
- Consider pressure velocity (PV) analysis and limits when selecting wearstrip materials.
- When using hold down guides with belt speeds over 80 fpm (24 mpm), contact Intralox Customer Service.

ABRASION

Abrasive materials embed in softer materials and wear harder materials. Use the following guidelines to accommodate and minimize wear in abrasive environments:

- Ensure the selected belt material is suitable for abrasive applications. See Special Application Belt Materials.
- Select abrasion resistant sprockets, EZ Clean sprockets, or sprockets made of another durable material. See Sprocket Material Availability.
- Consider using a chevron pattern for carryway wearstrips. See Chevron Pattern.
- Use a scroll idler to help remove abrasive debris. See Scroll Idlers.
- Consider an EZ Clean in Place (CIP) System to increase debris removal. See EZ Clean™ in Place (CIP) System.
- Plan regular cleaning according to Intralox recommendations for wet or dry environments. Contact Intralox Customer Service for more information.
- Plan regular preventive maintenance inspections to identify and replace worn components. For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

HIGH-IMPACT APPLICATIONS

In applications with high impacts or concentrated (point) loads, belts supported by carryway wearstrips are susceptible to increased deflection and damage in the unsupported areas between the wearstrips. Use the following guidelines to avoid deflection and increase belt life.

- Consider using a solid-plate carryway or add impact plates to impact zones.
- In applications where product drops from a chute or hopper onto the carryway:
  - Use a lower belt speed and reduce the chute or hopper load as much as possible to prevent belt damage.
  - Avoid using flighted belts.
  - For high impacts or heavy loads concentrated in a small area, contact Intralox Customer Service.

CHEMICAL DAMAGE

Over time, continued chemical exposure degrades plastics. Factors affecting the degree of degradation are dwell time, temperature, and chemical concentration. To minimize belt damage, use the chemical supplier recommendations for effective dwell times, temperatures, and concentrations.

Chemical resistance information for common belt materials is provided in the Chemical Resistance Guide.

OTHER CONVEYOR DESIGNS

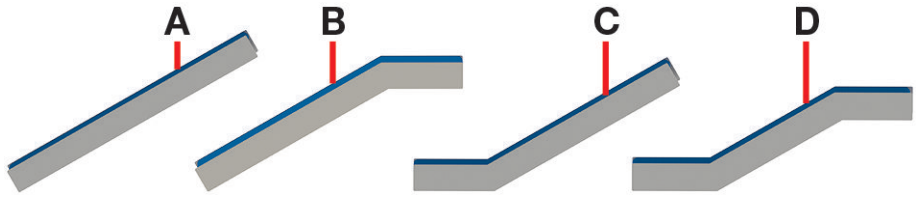
- Incline or decline conveyors are similar to horizontal designs, but have certain additional design requirement for good operation. See Incline and Decline Conveyors.
- Vacuum conveyors introduce additional belt pull and require attention to airflow through the belt. See Vacuum Conveyors.
- Radius conveyors require specific dimensions for turning and straight sections, and often include nose-rollers or take-ups. See Radius Conveyors.
- Spiral conveyors can be structure-supported or belt-supported and have additional drive method options. See Spiral Conveyors.

Intralox engineers and technical experts are available to provide engineering assistance and design reviews for any conveyor design. Detailed design guidelines are available for certain belts and applications. Contact Intralox Customer Service for more information.

INCLINE AND DECLINE CONVEYORS

Straight incline or decline conveyors are fully inclined. These conveyors require careful attention to angle, motor placement, and the amount of back tension on drive sprockets. Intralox can help determine the best design for your conveyor. Contact Intralox Customer Service for more information.

Two-part incline or decline conveyors include a horizontal section either before or after the incline. Three-part incline or decline conveyors include horizontal sections before and after the incline section. For more information about these designs, see, Two-Part and Three-Part Incline/Decline Conveyors.



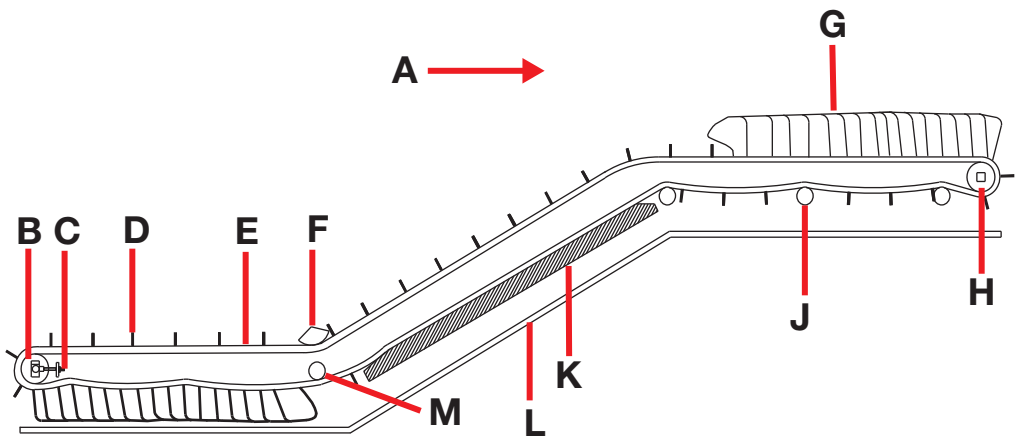
A straight incline or decline
B two-part incline or decline with horizontal section after incline
C two-part incline or decline with horizontal section before incline
D three-part incline

Figure 168: Incline and decline conveyor types

- Avoid attempting to push product up an incline.
- For proper sprocket engagement, prevent belt sag between the drive sprockets and the first roller or shoe. A snub roller can be required if the infeed straight is larger than 4 ft (1.2 m).
- Provide an active or dynamic take-up on the idle shaft to ensure proper catenary sag. As the angle of incline increases, the effectiveness of catenary sag as a belt length control method decreases.
- Ensure belts and accessories move freely through the returnway and do not contact drip pans or other components below the conveyor. See Support for Accessories and Textured Belts.
- On two- and three-part incline or decline conveyors:
  - Provide a hold down shoe at the intermediate point in the lower part of the carryway. Ensure the shoe radius is as large as the application allows. The minimum radius is 6 in (152 mm). See Two-Part and Three-Part Incline/Decline Conveyors.
  - Provide an internal roller or shoe at the transition point in the lower part of the returnway. The minimum diameter is 3 in (76 mm).
- Consider a drum or scroll on the idle shaft if product or debris is expected to fall between the belt and the sprockets.

TWO-PART AND THREE-PART INCLINE/DECLINE CONVEYORS

The following figure shows design features and options commonly used on elevating conveyors.



A run direction
B idle shaft and sprockets at infeed end
C take-up
D flight
E belt
F shoe at transition point
G sideguards
H drive shaft and sprockets at outfeed end
J returnway support roller
K belt support wearstrips
L drip pan
M internal roller at transition point

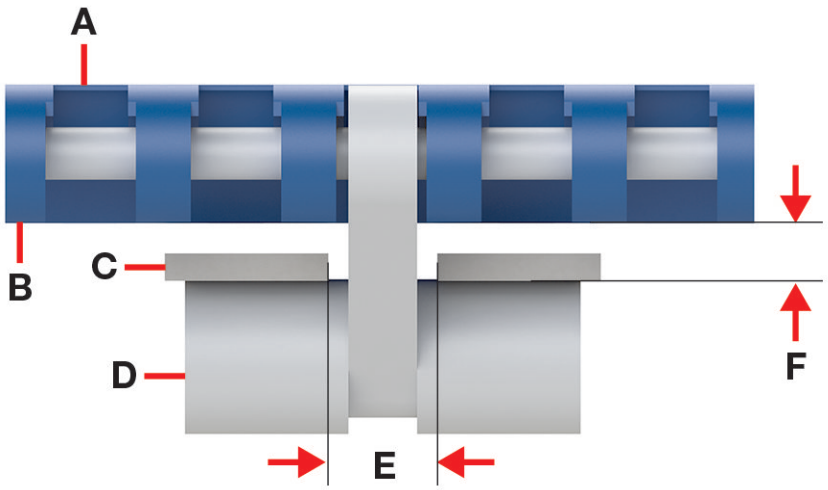
Figure 169: Three-part incline/decline conveyor

HOLD DOWN ROLLER ACCESSORIES

Two- and three-part elevating conveyors must be guided through elevation transitions. Guidance can be provided with hold down shoes or rollers above the belt, or by using hold down roller accessories available for certain belts. These accessories are built into the underside of the belt and held in place by the belt hinge rods. The rollers ride in steel rails below the belt and anchor the belt in position as it enters a transition. For information about compatible belts and accessory placement on the belt, see Hold Down Rollers in the Product Line chapter.

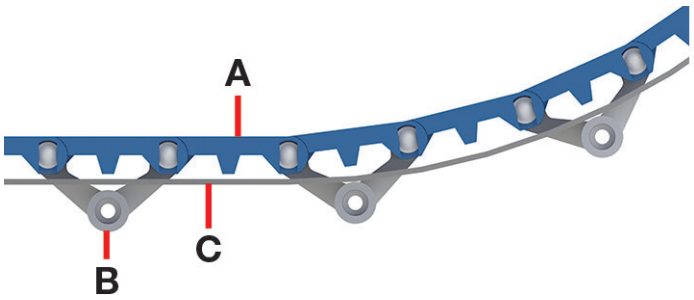
Use the following guidelines for conveyors with hold down rollers.

- Select sprockets large enough to prevent hold down rollers from contacting the shafts.
  - When using a 1.5 in or 40-mm square shaft, the minimum allowable sprocket pitch diameter is 6.4 in (163 mm).
  - When using a 2.5 in or 60-mm shaft, the minimum allowable sprocket pitch diameter is 7.7 in (196 mm).
- Provide steel rails in the carryway and the returnway.
  - Provide a minimum rail width of 0.75 in (19 mm).
  - Provide a minimum rail height of 0.125 in (3 mm). A thicker rail requires a larger rail bend radius.
  - Ensure the rail bend radius is a minimum of 12 in (305 mm). To minimize wear, provide a bend radius as large as the application allows.
  - In applications where large temperature variations are expected, rails must be placed carefully to accommodate the thermal expansion of the belt. The transverse movement of the roller assemblies can be calculated by using the coefficients of thermal expansion. See Thermal Expansion and Contraction. Use the distance of the hold down roller assembly to the belt centerline to calculate the movement.



A belt top surface
B belt bottom surface
C steel rail, minimum height: 0.125 in (3 mm), minimum width: 0.75 in (19 mm)
D hold down roller
E distance between steel rails: 0.5 in (13 mm)
F clearance above hold down rollers: 0.26 in (7 mm)

Figure 170: Hold down roller



A belt
B hold down roller
C steel rail

Figure 171: Hold down roller

VACUUM CONVEYORS

In vacuum applications, differential pressure holds products to the belt and holds the belt to the carryway. This pressure introduces additional belt pull. If only a small area of the belt area is under vacuum with a low differential pressure, the added belt pull can be insignificant. For larger belt areas with high differential pressure, the additional pull is higher. Intralox can help calculate the expected belt pull for your application. Contact Intralox Customer Service for more information.

When designing a vacuum conveyor, it can be useful to determine expected airflow through the belt at various differential pressures. Airflow through the belt depends on several factors:

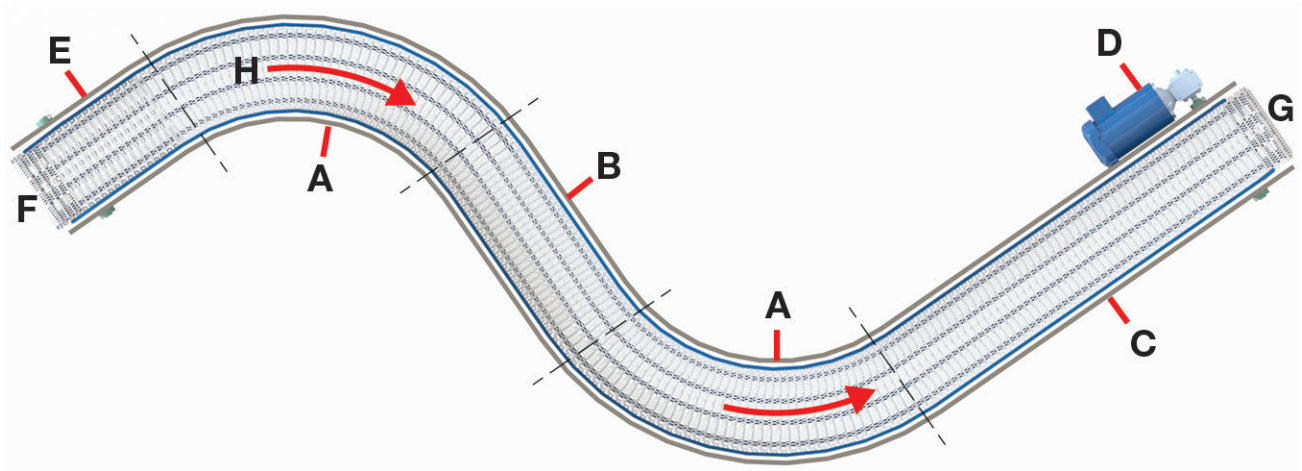
- The amount of open area in the selected belt
- The differential pressure
- Product spacing on the belt
- Air leakage around the belt edges

For airflow rates on belts commonly used in vacuum applications, see Table 6: Airflow Rate Through Belt, per Square Foot of Belt Area.

RADIUS CONVEYORS

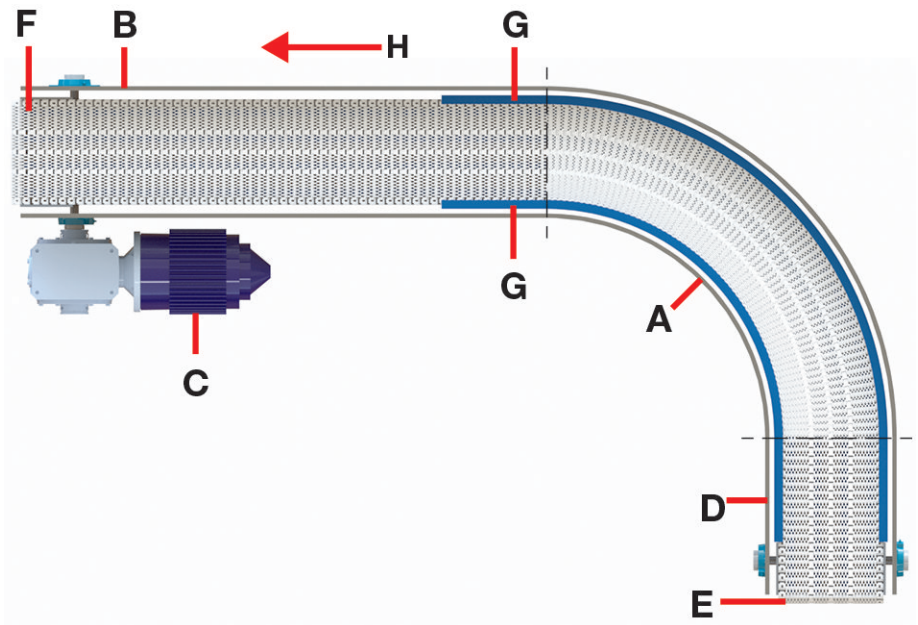
Use the following guidelines when designing radius conveyors:

- Use the recommended radius for inside turns (A). Each belt has unique inside turn radius requirements. See the product information for the selected belt or contact Intralox Customer Service for more information.
- Ensure the straight section between turns of opposing direction (B) is a minimum of 2.0 × the belt width. Using less than the recommended minimum length increases the risk of higher wear, higher belt tensions, and increased belt vibration.
- There is no minimum straight section required between turns that are in the same direction.
- Ensure the length of the final straight section at the outfeed end (C) is at least 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter lengths (down to 1.5 × the belt width) can be used. Shorter lengths require a gravity take-up to ensure the belt properly engages the drive sprockets. For more information, see Gravity Take-Ups.
- Ensure the first straight section at the infeed end (E) is a minimum 1.5 × the belt width. This length can be shortened to 1 × the belt width if using a nose-roller, idle roller, or disks rather than sprockets on the idle shaft.
- For infeed and outfeed configuration on tight-transfer conveyors, see Tight-Transfer Methods.



A inside turn
B straight section between turns of opposing direction
C straight section at outfeed
D drive motor
E straight section at infeed
F infeed end
G outfeed end
H run direction

Figure 172: Typical layout for turns in both directions



A inside turn
B straight section at outfeed
C drive motor
D straight section at infeed
E infeed end
F outfeed end
G hold down wearstrip
H run direction

Figure 173: Typical layout for turns in one direction

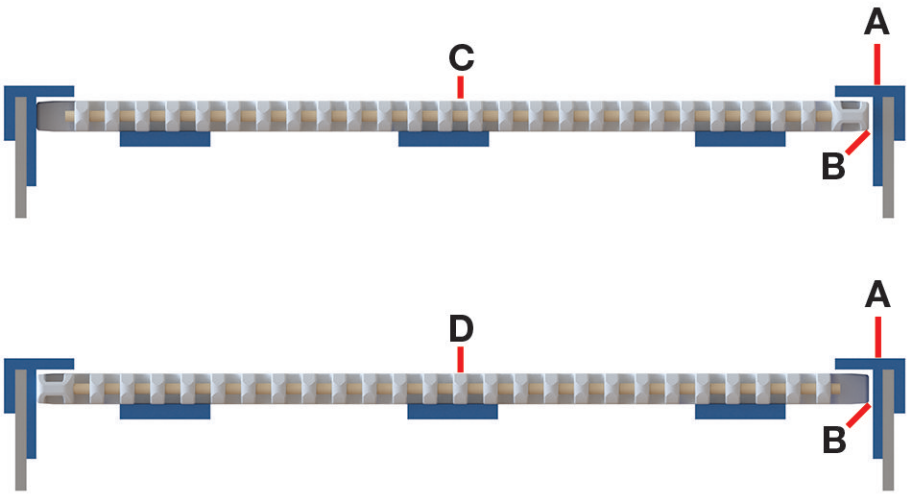
HOLD DOWN WEARSTRIPS

The use of hold down wearstrips along both belt edges over the full carryway is recommended, except in heavily loaded or high-speed applications. For applications that require the full belt width for product transport, belts with integrated hold down guides can be used with hold down guide wearstrips placed below the belt.

For information about hold down wearstrips and hold down guide wearstrips, see Custom Wearstrips.

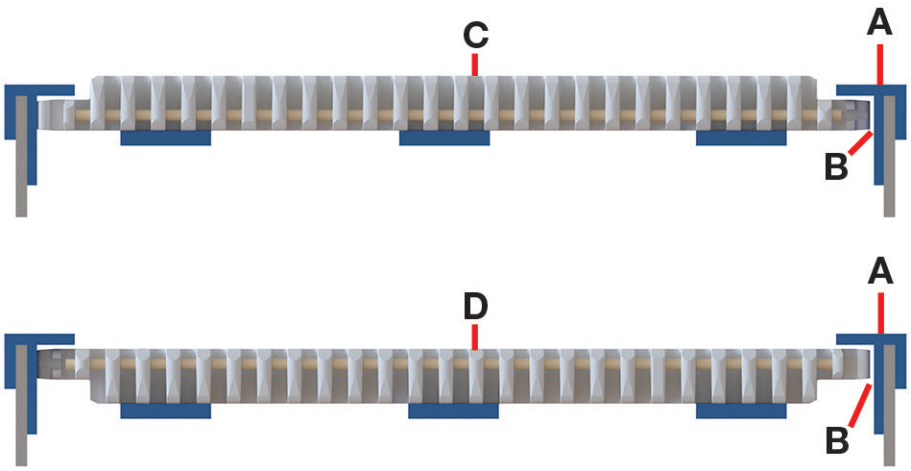
NOTE: In heavily loaded or high-speed applications, do not use hold down guides to guide the belt through a turn. Rapid wear to the hold down guides and wearstrips occurs in applications with high loads or speeds. Do not use hold down guides to hold the belt down through a negative transition. Intralox can provide a belt pull analysis for your application. Contact Intralox Customer Service for more information.

- Provide continuous hold down guides through an entire turn, in both the carryway and the returnway.
  - Start the hold down guides before the turn, at a distance of 1 × the belt width.
  - End the hold down guides after the turn, at a distance of 1 × the belt width.
  - Ensure hold down guide wearstrips provide adequate hold down at the outside edge.
  - Provide enough clearance between the belt and the hold down wearstrips to prevent binding at the outside edge. Factors include belt width, wearstrip design, curve radius, molding tolerances, and application temperatures and conditions. Intralox can help determine the proper clearance for your application.



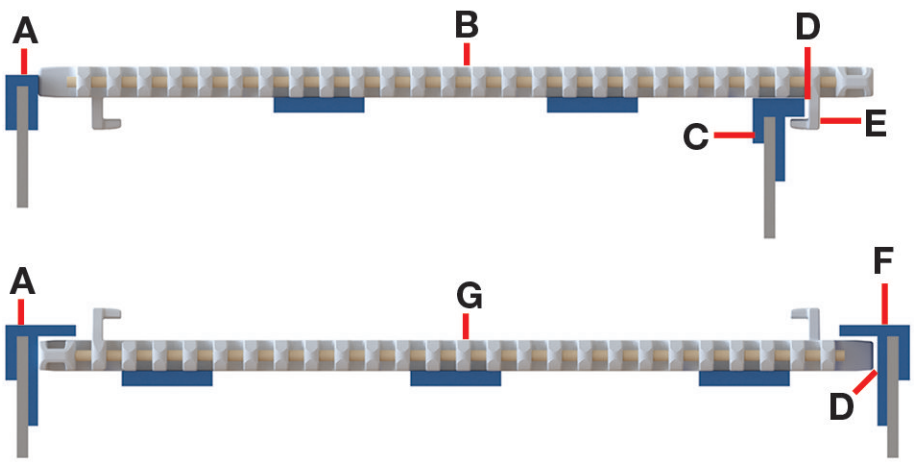
A hold down wearstrip
B clearance on outside edge
C belt on carryway
D belt on returnway

Figure 174: Hold down wearstrips for standard belts



A hold down wearstrip
B clearance on outside edge
C belt on carryway
D belt on returnway

Figure 175: Hold down wearstrips for High Deck and Raised Rib flush edge belts



A inside edge
B belt on carryway
C hold down guide wearstrip
D clearance on outside edge
E hold down guide
F hold down wearstrip
G belt on returnway

Figure 176: Hold down guide wearstrips for belts with hold down guides

SPIRAL CONVEYORS

Intralox can provide an engineering analysis for your spiral conveyor design and recommend an appropriate belt for your application. For more information, see Engineering Analysis for Spiral and Radius Belts or contact Intralox Customer Service.

DIRECTDRIVE

DirectDrive belts use positive engagement to drive the inside edge of the belt using a drum with drive bars. This technology significantly reduces belt tension and total system stress. DirectDrive structure-supported spirals ensure better system performance, reduced downtime, and substantially longer belt life.

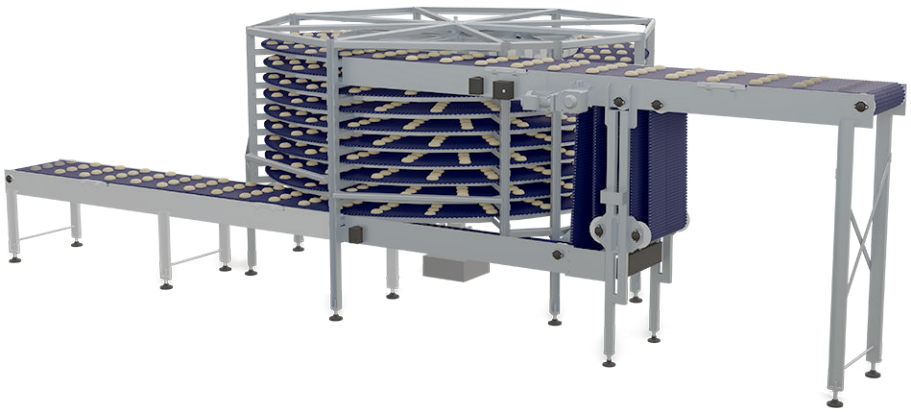


Figure 177: DirectDrive structure-supported spiral conveyor

DIRECTDRIVE STACKER

The DirectDrive Stacker belt supports its weight on the inner and outer edges, removing the need for a traditional carryway. This approach allows for twice the amount of belt within the same vertical space as a structure-supported spiral conveyor.

DirectDrive is a licensed technology. Contact Intralox Customer Service for more information.



Figure 178: DirectDrive Stacker spiral conveyor

FRICTION DRIVE SYSTEMS

Friction-driven spiral conveyors use two VFDs and two motors connected through a control panel. The take up motor determines the line speed. The drum rotation is used to control belt tension.

Overdrive refers to the relative motion between the drum and the belt. Overdrive is the difference between the drum speed and the linear belt speed. Adjusting the overdrive allows control of belt tension and improves product orientation.

SIDE DRIVE

Side Drive belts are driven by sprockets at multiple locations along the belt with a drive motor at each sprocket. In turning sections, sprockets are placed at the outside edge. In straight sections, sprockets are placed on both belt edges. Some Side Drive conveyors use additional drive motors on the infeed or outfeed shafts. This conveyor design accommodates long belts, minimizes transfer points, and provides a simple, fully washdown-capable conveyor. Side Drive is a licensed technology. Contact Intralox Customer Service for more information.

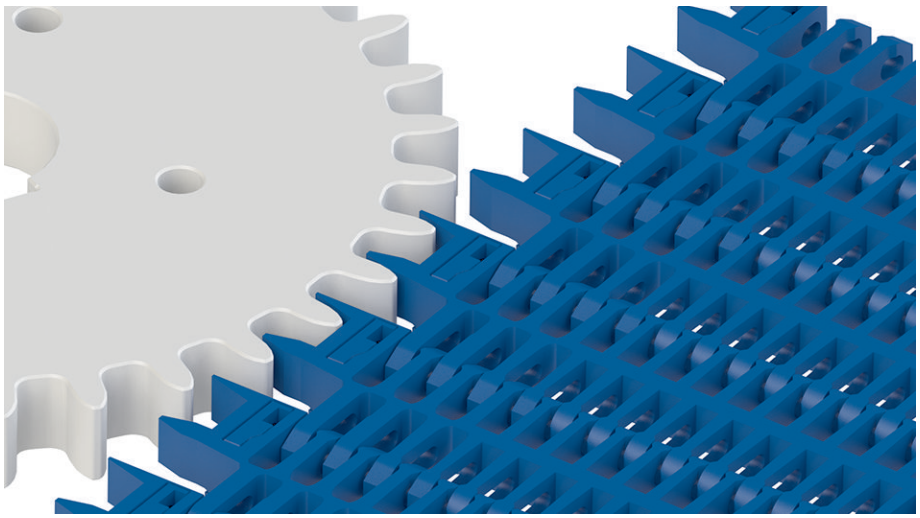
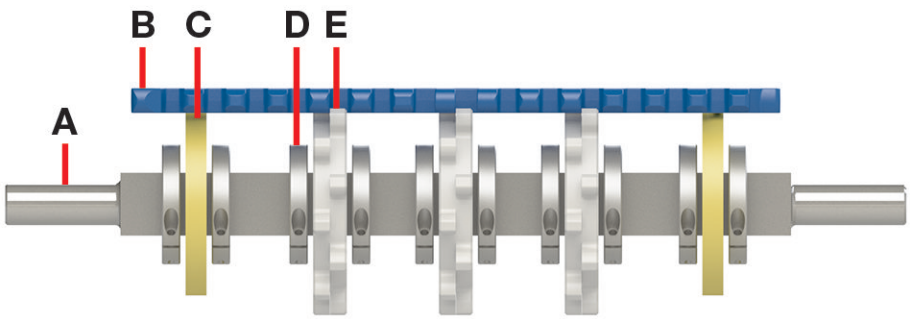


Figure 179: Side Drive belt and sprocket

- For sprocket placement, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

SPIRAL SHAFT CONFIGURATION

The following figure shows the typical shaft configuration for a spiral conveyor. Each belt has different configuration requirements. Contact Intralox Customer Service for more information.



A shaft
B belt
C support wheel
D split heavy-duty retainer ring
E sprocket

Figure 180: Spiral shaft configuration

4 REFERENCE TABLES

Intralox technical experts can help apply this information to your conveyor design. Contact Intralox Customer Service for more information.

TABLE 1: SERVICE FACTORS

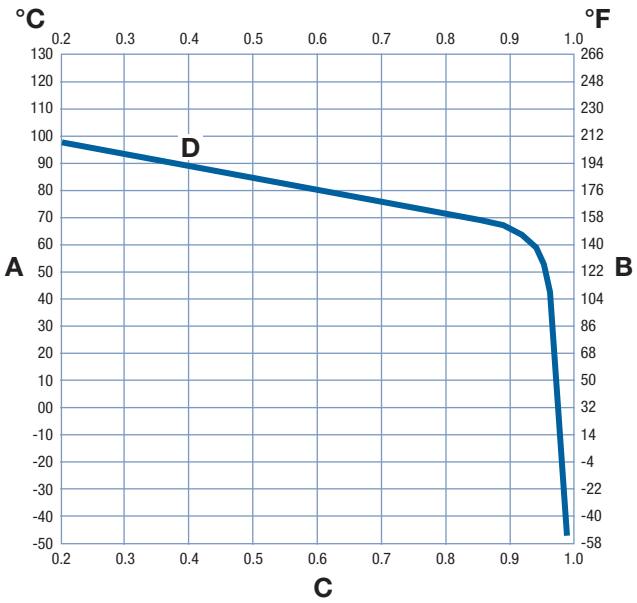
Operating Conditions	Add
Starts under no load, with load applied gradually	1.0
Frequent starts under load (more than once per hour)	0.2
Operation at speeds greater than 100 fpm (30 m/min)	0.2
Elevating conveyor	0.4
Pusher conveyor	0.2
Service factor (SF)	total

NOTE: At speeds greater than 50 fpm (15 m/min) on conveyors that are started with product accumulation, consider soft-start motors.

TABLE 2: TEMPERATURE FACTORS

NOTE: These graphs can be used to manually calculate a conveyor belt analysis. The *Intralox Engineering Program* calculates the temperature factor automatically, based on the operating temperature of the application.

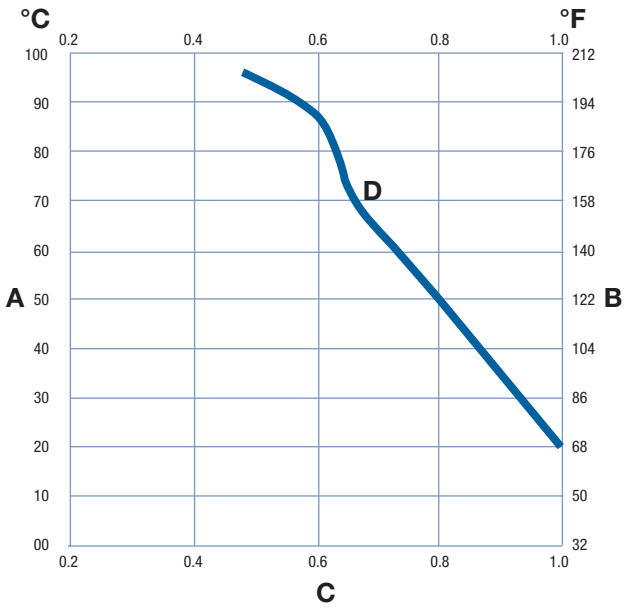
Acetal and HSEC Acetal



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D Acetal and HSEC acetal temperature factor—Intermittent exposure above 200°F (93°C).

Figure 181: Acetal and HSEC acetal temperature factor

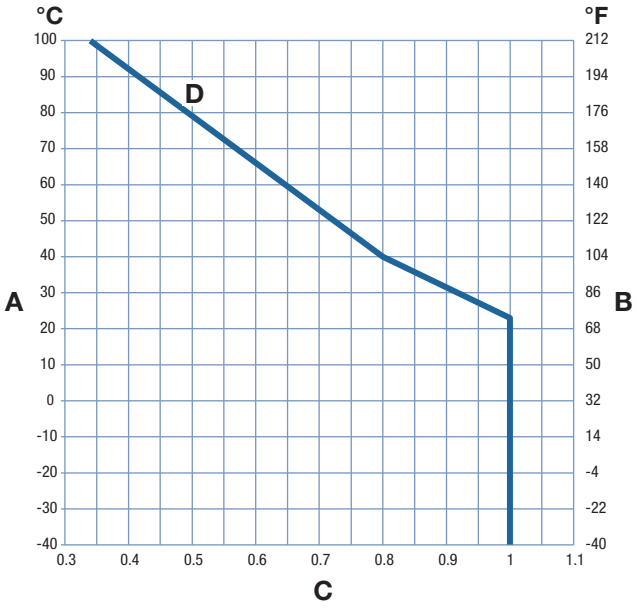
ChemBlox



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D ChemBlox

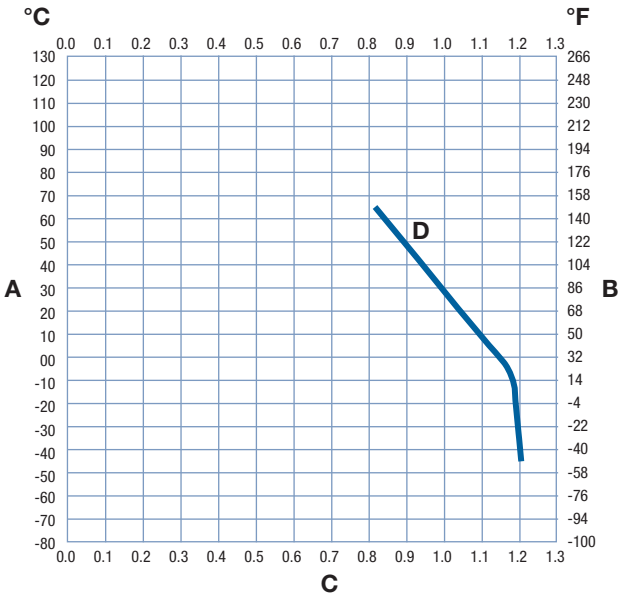
Figure 182: ChemBlox temperature factor

Detectable MX



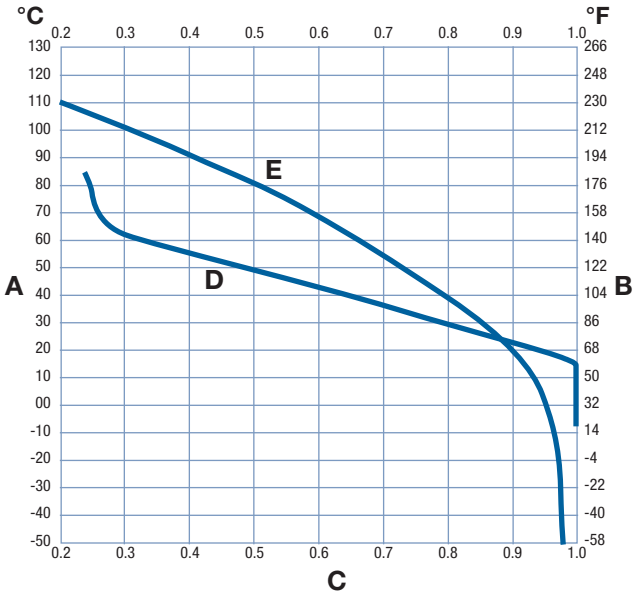
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D detectable MX
Figure 183: Detectable MX temperature factor

Detectable Polypropylene Composite



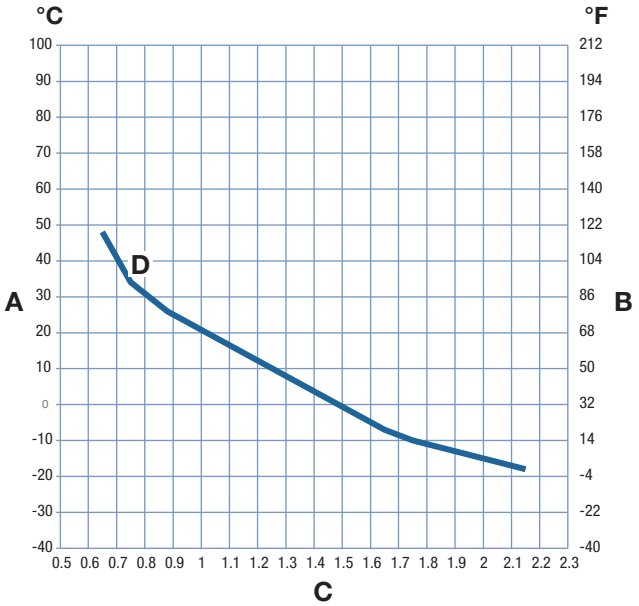
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D Detectable polypropylene
Figure 184: Detectable polypropylene composite temperature factor

FR TPES, Nylon, SELM, and LMAR



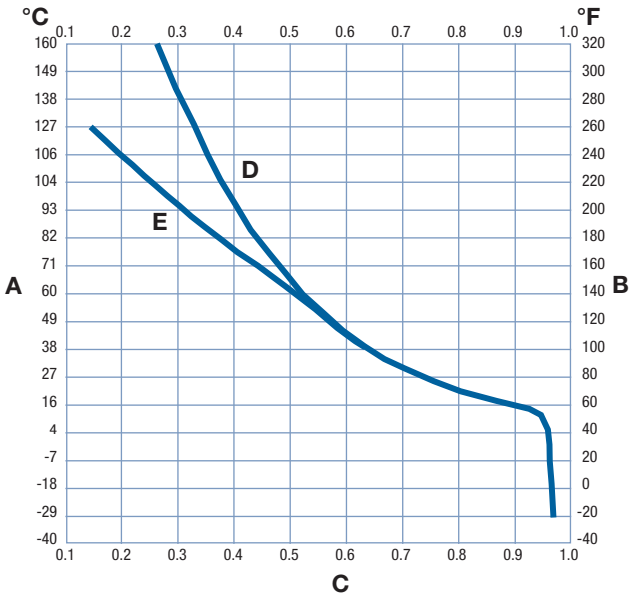
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D flame retardant
E nylon, SELM, LMAR
Figure 185: FR TPES, nylon, SELM, LMAR temperature factors

Hi-Impact



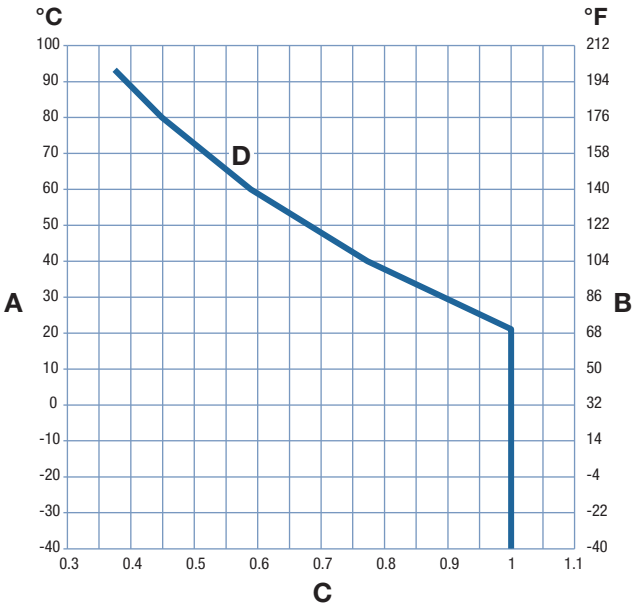
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D Hi-Impact
Figure 186: Hi-Impact temperature factor

HR Nylon and HHR Nylon



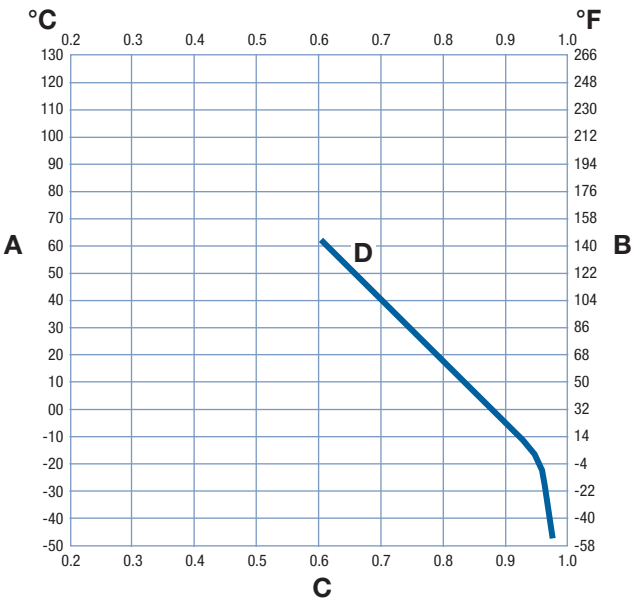
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D HHR nylon
E HR nylon
Figure 187: HR nylon and HHR nylon temperature factors

PK



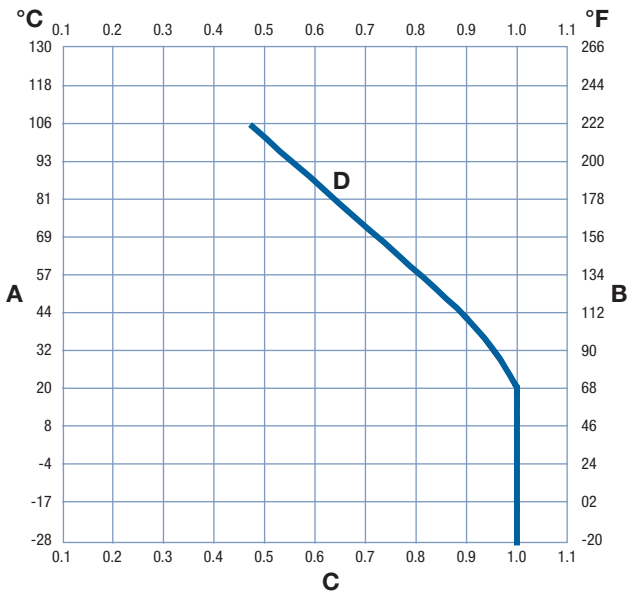
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D PK
Figure 188: PK temperature factor

Polyethylene



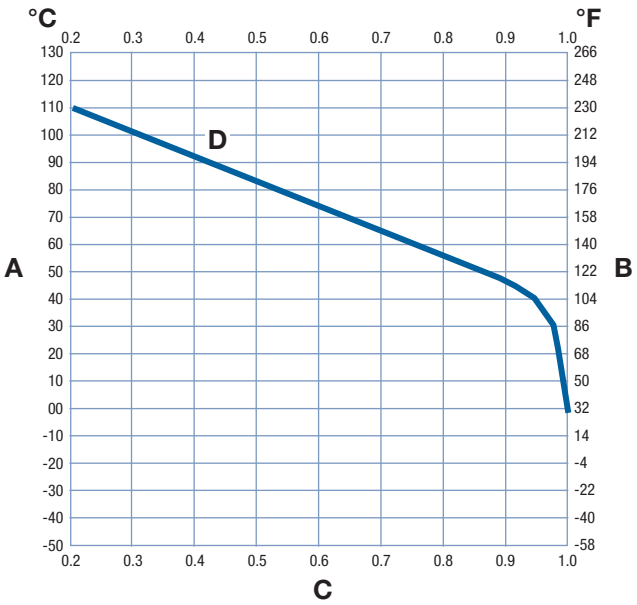
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D polyethylene temperature factor
Figure 189: Polyethylene temperature factor

Polypropylene Composite



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D polypropylene composite—Intermittent exposure above 220°F (104°C). Avoid high impact below 45°F (7°C).
Figure 190: Polypropylene composite temperature factor

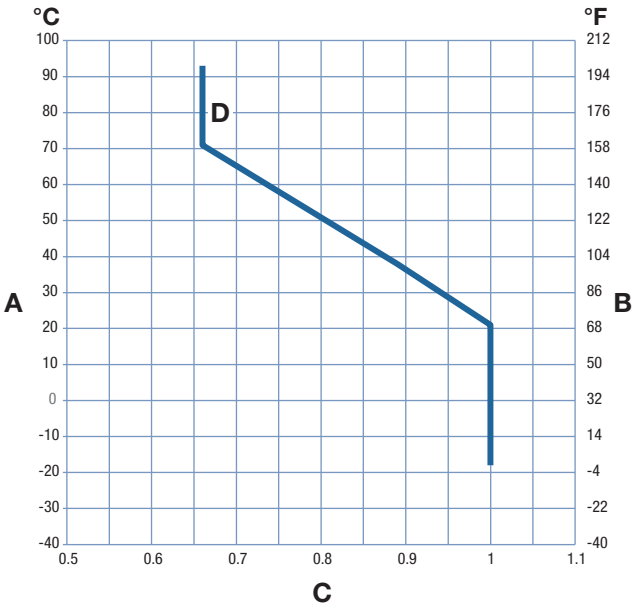
Polypropylene



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D polypropylene temperature factor (T)—intermittent exposure above 220°F (104°C). Avoid high impact below 45°F (7°C).

Figure 191: Polypropylene temperature factor

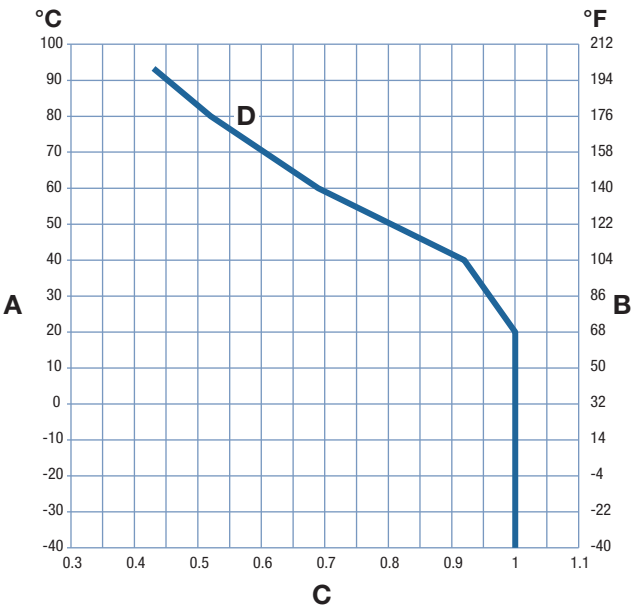
PVDF



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D PVDF

Figure 192: PVDF temperature factor

X-Ray Detectable PK



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D X-ray detectable PK

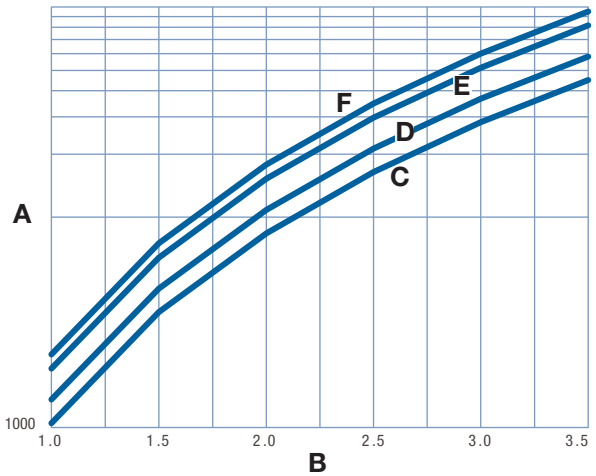
Figure 193: X-ray detectable PK temperature factor

TABLE 3: SHAFT DATA

Shaft Size	Shaft Weight (Q), lbf/ft (N/m)		Moment of Inertia (I), in^4 (mm^4)
	Carbon Steel	Stainless Steel	
5/8 in square	1.33[a]	1.33[a]	0.013
1 in square	3.40[a]	3.40[a]	0.083
1.5 in square	7.65[a]	7.65[a]	0.42
2.5 in square	21.25[a]	21.25[a]	3.25
3.5 in square	41.60[a]	41.60	12.50
25 mm square	(48)[b]	(4.920)[b]	(32,550)
40 mm square	(123)[b]	(12.55)[b]	(213,300)
60 mm square	(285)[b]	(29.11)[b]	(1,080,000)
65 mm square	(335)[b]	(34.16)[b]	(1,487,600)
Modulus of elasticity (E) lb/ln^2 (kg/mm^2)	30,000,000 (21,100)	28,000,000 (19,700)	

[a] Intralox USA can supply square shafts machined to specifications in these sizes in carbon steel (C-1018), stainless steel (303/304 and 316), and aluminum (6061-T6).
[b] Intralox Europe offers square shafting in these sizes in carbon steel (KG-37) and stainless steel (304).

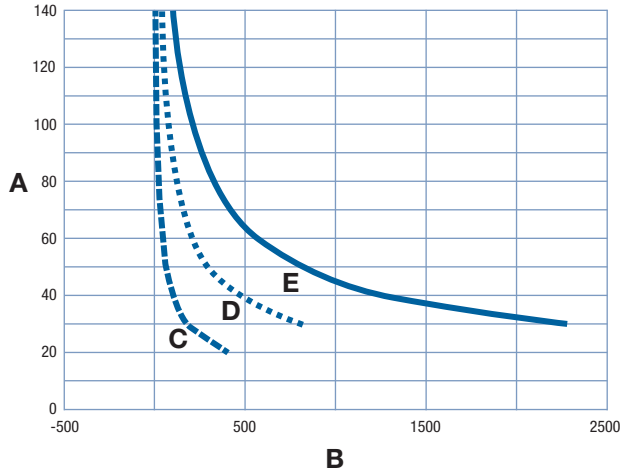
TABLE 4: MAXIMUM RECOMMENDED TORQUE ON DRIVE SHAFT



A torque, in-lbf
B shaft journal diameter, in
C 303/304/316 stainless steel
D 1018 carbon steel (cold-rolled)
E 2205 duplex stainless steel (cold-rolled)
F 4140 alloy steel (cold-rolled)

Figure 194: Maximum recommended torque on drive shaft

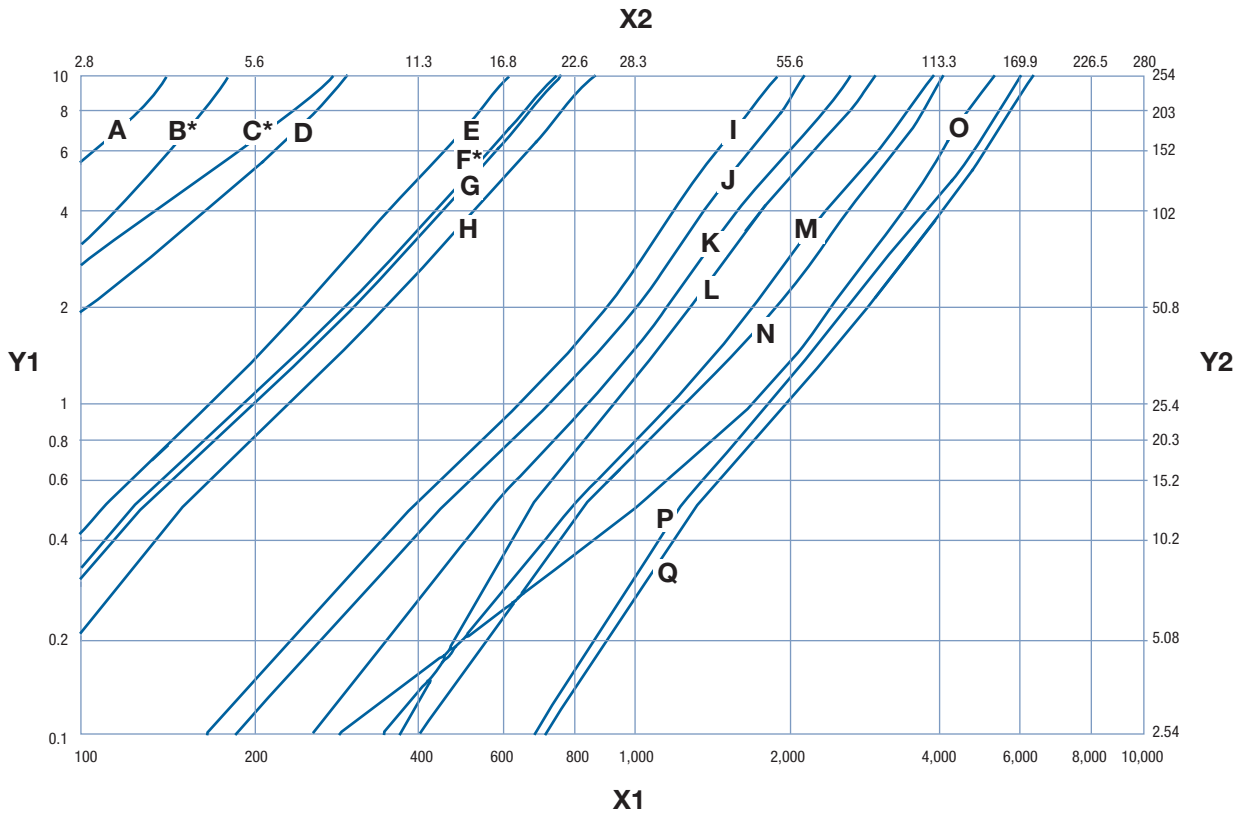
TABLE 5: BELT PULL LIMITS VS. SHAFT SPAN FOR RETAINER RING GROOVES



A shaft span between bearings, in
B maximum recommended belt pull, lb/ft
C 1.5 in square shafts
D 2.5 in square shafts
E 3.5 in square shafts

Figure 195: Belt pull limits vs. shaft span for retainer ring grooves

TABLE 6: AIRFLOW RATE THROUGH BELT, PER SQUARE FOOT OF BELT AREA



Y1 Pressure drop, inches of water
Y2 Pressure drop, millimeters of water
X1 Airflow Rate, feet^3/minute
X2 Airflow rate, meters^3/minute
A S400 Flat Top
B* S1100 Edge Loss
C* S1100 Flat Top
D S900 Flat Top
E S900 Perforated Flat Top 1/8 in
F* S1100 Perforated Flat Top Ø 5/32 in
G S900 Perforated Flat Top Ø 5/32 in
H S900 Perforated Flat Top Ø 3/16 in
I S400 Flush Grid
J S800 PFT, S800 PFT Ø 5/32 in, S2000
K S100 Flush Grid
L S100 and S400 Raised Rib
M S200 Flush Grid, S200 Open Hinge
N S1100 Flush Grid
O S900 Flush Grid and Raised Rib
P S200 Open Hinge
Q S2200

Figure 196: Airflow rate through belt, per square foot of belt area

TABLE 7: MAXIMUM DRIVE SHAFT SPAN LENGTH

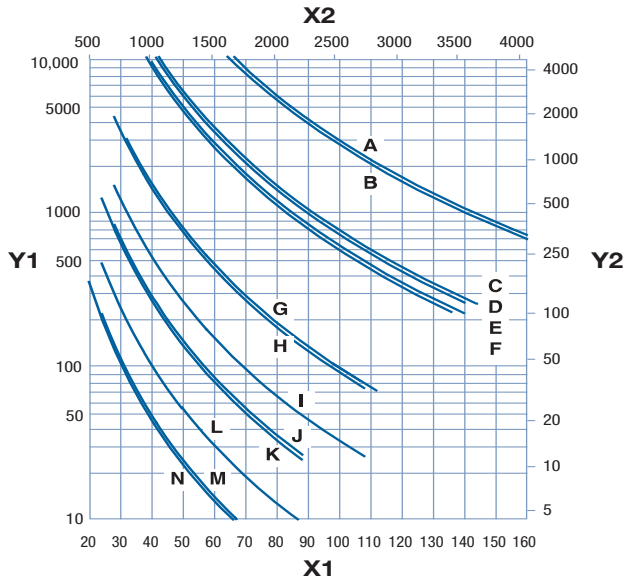


Figure 197: Conventional conveyors with only two (2) bearings; maximum allowed deflection: 0.10 in (2.5 mm)

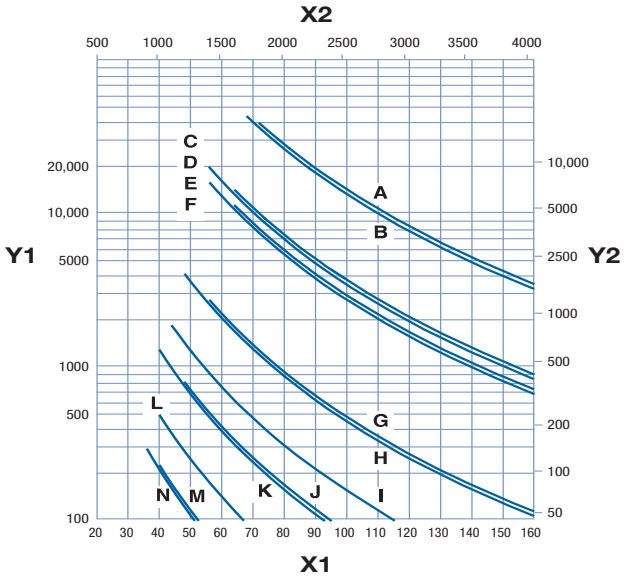


Figure 198: Conventional conveyors with three (3) or more equally spaced bearings; maximum allowed deflection: 0.10 in (2.5 mm)

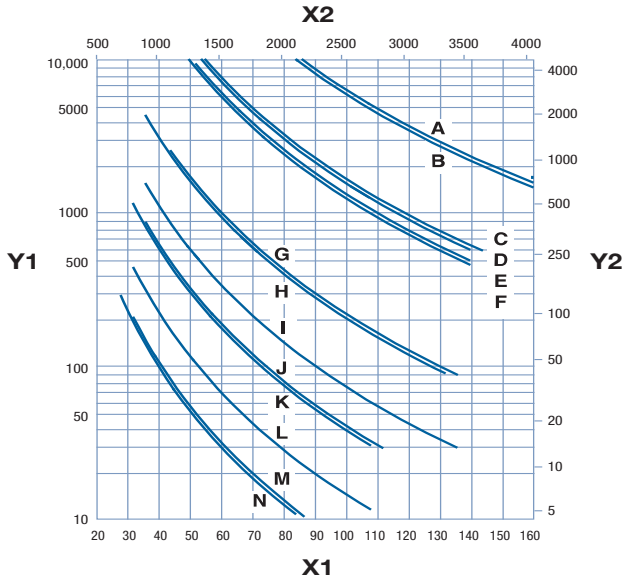


Figure 199: Bi-directional and pusher conveyors with only two (2) bearings; maximum allowed deflection: 0.22 in (5.6 mm)

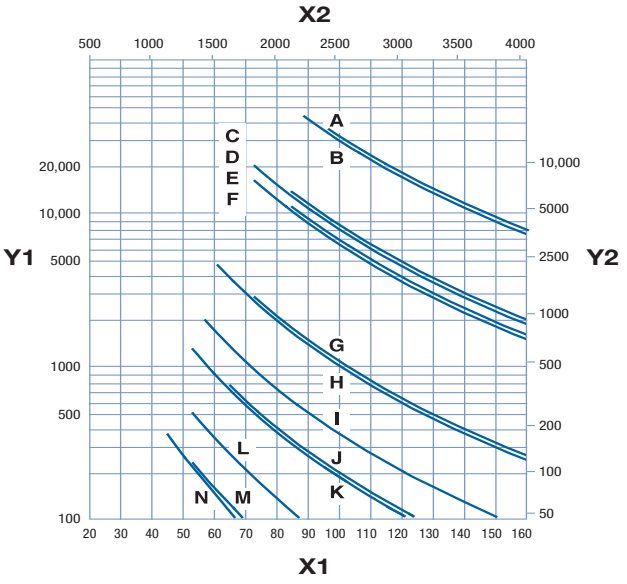


Figure 200: Bi-directional and pusher conveyors with three (3) or more equally spaced bearings; maximum allowed deflection: 0.22 in (5.6 mm)

Y1 total shaft load, lb
Y2 total shaft load, kg
X1 max. shaft span length, in
X2 max. shaft span length, mm

A 3.5 in and 90-mm square carbon steel
B 3.5 in and 90-mm square stainless steel
C 2.5 in and 65-mm square carbon steel
D 2.5 in and 65-mm square stainless steel
E 60-mm square carbon steel
F F 60-mm square stainless steel
G 1.5 in and 40-mm square carbon steel
H 1.5 in and 40-mm square stainless steel
I I 1.5 in square aluminum
J 1.0 in and 25.4-mm square carbon steel
K 1.0 in and 25.4-mm square stainless steel
L 1.0 in square aluminum
M 5/8 in square carbon steel
N 5/8 in square stainless steel

CHEMICAL RESISTANCE GUIDE

The following chemical resistance data is based on information from polymer manufacturers and Intralox field experience. The data is indicative only for the conditions under which it was collected and is a recommendation only, not a guarantee. This data pertains to chemical resistance only, and the temperatures listed are generally the chemical application temperatures. Other design and personal safety concerns were not considered in making recommendations. Always test materials and products under exact intended service conditions to determine their suitability for a particular purpose.

Chemicals listed without a concentration are for the undiluted chemical. Chemicals listed with a concentration are in solution with water. Descriptions in parentheses are the active ingredient. In general, as the chemical application temperature, chemical concentration, and exposure time rise, the chemical resistance of a material decreases. For more information about chemicals and materials of construction contact Intralox Customer Service.

Thermoplastics elastomers (TPE) are a growing class of polymers that offer a unique combination of plastic and elastomeric properties. The most obvious of these properties is the ability to be injection molded onto a substrate for achieving a performance criteria. The fact that a rubber (elastomeric) component is present means that exposure to various chemicals in the application must be considered. Sources of chemicals include the product to be conveyed, materials used to clean and maintain the equipment and belt, and any other potential sources in the area. Intralox suggests doing appropriate testing and consulting with our staff of experts early on to establish fitness for use in a particular application. In general, TPEs are compatible with both weak acids, most alkalis, and alcohols. Contact with strong acids poses a problem. Due to a rubber component, oils and fats will have a swelling effect over time. Organic solvents and various hydrocarbons are also expected to cause problems. Generally speaking, fuels of any type will cause problems over time. In food handling applications, ensure that the ingredients present in the food are considered. Also, in food handling, the higher the applied chemical temperature, chemical concentration, and exposure time, the more rapid the reaction between the chemical and the TPE will be.

	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	**Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information**																	
Acetic acid–5%	R	R	R	R	R	—	R	R	R	—	LR	—	LR	NR	R	—	R	—
Acetic acid–10%	R	R	R	R	R	—	—	—	R	—	LR	NR	—	—	R	—	—	—
Acetic acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	—	—	—	—
Acetone	R	R	R	R	R	R	LR	LR	R	R	R	—	R	R	NR	NR	NR	NR
Alcohol, all types	R	R	R	R	—	—	—	—	—	—	R	R	R	R	R	R	NR	—
Alum, all types	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	—	—	—	—
Almond oil	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum alum	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum compounds	R	R	R	R	—	—	—	—	—	—	LR	R	R	R	R	R	LR	—
Aluminum chloride	R	R	R	R	LR	NR	—	—	LR	NR	R	—	—	—	R	—	R	R
Aluminum fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum hydroxide	R	R	R	R	R	R	—	—	R	R	R	—	—	—	R	—	R	—
Aluminum nitrate	R	R	—	—	LR	NR	—	—	LR	NR	LR	LR	—	—	R	—	R	—
Aluminum phosphate	R	R	R	R	—	—	—	—	—	—	LR	LR	—	—	—	—	—	—
Aluminum sulfate	R	R	R	R	LR	NR	—	—	LR	NR	LR	LR	R	R	R	—	R	—
Ammonia	R	R	R	R	R	R	—	—	R	R	LR	LR	R	R	R	NR	R	—
Ammonium compounds	R	R	R	R	—	—	—	—	R	—	LR	R	R	R	R	R	LR	—

	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	**Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information**																	
Ammonium acetate	R	—	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Ammonium carbonate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	—	—	R	—
Ammonium chloride	R	R	R	R	R	LR	R	R	R	LR	R	LR	R	R	R	—	R	—
Ammonium fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ammonium hydroxide	R	R	—	—	R	R	R	LR	R	R	—	—	—	—	LR	NR	LR	—
Ammonium nitrate	R	R	R	R	R	LR	—	—	R	LR	R	LR	R	R	R	—	R	—
Ammonium phosphate	R	R	R	R	R	—	—	—	R	—	R	LR	R	R	—	—	—	—
Ammonium salts	—	—	R	—	R	—	—	—	R	—	R	LR	—	—	—	—	—	—
Ammonium sulfate	R	R	R	R	R	LR	R	—	R	LR	R	LR	R	R	R	—	R	—
Amyl acetate	NR	NR	R	R	R	—	—	—	R	—	R	NR	NR	NR	R	NR	NR	NR
Amyl chloride	NR	NR	LR	NR	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Aniline	R	LR	R	R	—	LR	NR	NR	—	LR	LR	—	—	—	LR	—	NR	NR
Antifreeze	R	R	R	T	—	—	R	R	—	—	—	—	R	R	R	R	—	—
Aqua regia	LR	NR	NR	NR	LR	—	—	—	LR	—	NR	NR	NR	NR	NR	NR	NR	NR
Apple juice	R	R	—	—	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Arsenic acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Asphalt	—	—	R	LR	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Barium compounds	R	R	R	R	—	—	—	—	—	—	R	R	R	R	R	R	—	—
Barium carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Barium chloride	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	—	—
Barium hydroxide	R	R	R	R	—	—	R	—	—	—	—	—	—	—	—	—	R	—
Barium soap grease	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barium sulfate	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	—	—
Battery acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Beer	R	R	R	R	—	—	R	R	—	—	—	—	R	R	—	—	R	—
Benzene	LR	NR	LR	NR	R	R	—	—	R	R	R	R	R	R	R	NR	NR	NR
Benzenesulfonic acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Benzoic acid	R	R	R	R	LR	—	—	—	LR	—	LR	LR	—	—	R	—	NR	NR
Benzyl alcohol	—	—	R	R	R	—	—	—	R	—	LR	LR	—	—	—	—	NR	NR
Bone oil	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Borax	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Boric acid	R	R	R	R	LR	—	—	—	LR	—	LR	—	R	R	R	—	R	—
Brake fluid	R	R	R	R	R	R	R	R	R	R	R	—	R	R	R	LR	LR	—
Brine acid	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brine saturated	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brine water	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bromic acid	NR	NR	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bromine, liquid or fumes	NR	NR	NR	NR	—	—	—	—	—	—	NR	NR	NR	NR	NR	NR	—	—
Bromine water	NR	NR	R	—	LR	—	—	—	LR	—	NR	NR	NR	NR	NR	NR	—	—
Butter	R	R	R	R	R	—	—	—	R	—	LR	—	R	R	R	—	—	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Butyl acetate	NR	NR	R	LR	—	—	R	R	—	—	R	—	R	R	R	R	NR	NR
Butyl acrylate	NR	NR	R	LR	—	—	—	—	—	—	R	—	—	—	LR	LR	—	—
Butyl glycol	—	—	R	R	R	LR	—	—	R	LR	R	—	—	—	R	R	—	—
Butyric acid	R	R	R	LR	—	—	—	—	—	—	LR	—	—	—	R	—	NR	NR
Calcium compounds	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	R	R	R	—
Calcium carbonate	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	R	—
Calcium chloride	R	R	R	R	R	—	R	LR	R	—	R	LR	R	LR	R	—	R	—
Calcium hydroxide	R	R	R	R	R	—	R	—	R	—	R	—	—	—	R	—	NR	NR
Calcium hypochlorite	R	R	R	R	NR	—	—	—	NR	—	NR	NR	—	—	LR	—	R	—
Calcium nitrate	R	R	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Calcium phosphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium soap grease	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium sulfate	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	R	—
Calgonite–0.3%	R	R	—	—	R	R	—	—	R	R	—	—	—	—	—	—	R	—
Carbon dioxide	R	R	R	R	R	R	—	—	R	R	—	—	—	—	R	R	R	—
Carbon disulfide	LR	NR	LR	NR	R	—	—	—	R	—	R	NR	R	—	R	—	NR	NR
Carbon tetrachloride	LR	NR	NR	NR	R	LR	R	R	R	LR	R	R	R	R	R	LR	LR	—
Castor oil	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	R	—
Cellosolve™	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Chloroacetic acid 0–10%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorine, gas	NR	NR	—	—	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	LR	—
Chlorine, liquid	NR	NR	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorine water–0.4% Cl	R	LR	R	LR	NR	NR	—	—	NR	NR	—	NR	NR	NR	—	—	NR	—
Chlorobenzene	NR	NR	LR	NR	R	R	—	—	R	R	R	R	LR	LR	NR	NR	NR	NR
Chloroform	NR	NR	NR	NR	LR	NR	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorosulfonic acid	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chromic acid–10%	R	R	LR	LR	NR	NR	—	—	NR	NR	NR	NR	NR	—	LR	—	NR	NR
Citric acid	R	R	R	R	—	—	—	—	—	—	—	R	R	—	R	R	R	—
Citric acid–10%	R	LR	R	R	LR	NR	—	—	LR	NR	LR	—	R	—	R	LR	R	—
Citrus juices	R	R	R	R	R	—	—	—	R	—	—	—	—	—	R	—	—	—
Clorox®	R	R	—	—	—	—	—	—	—	—	—	NR	NR	NR	—	—	NR	—
Coconut oil	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	R	—
Coffee	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Copper compounds	R	R	R	R	—	—	—	—	—	—	LR	—	LR	—	R	R	R	—
Copper chloride	R	R	R	R	R	—	R	—	R	—	LR	—	—	—	R	—	R	—
Copper fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Copper nitrate	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	R	—
Copper salts	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	R	—
Copper sulfate	R	R	R	R	R	R	—	—	R	R	LR	—	R	—	R	—	R	—
Corn oil	R	R	R	LR	—	—	—	—	—	—	—	—	R	—	R	—	—	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Cottonseed oil	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—	R	—
Cresol	R	R	R	LR	—	—	—	—	—	—	NR	NR	NR	NR	—	—	NR	NR
Crude oil	—	—	R	LR	R	—	—	—	R	—	—	—	—	—	R	NR	—	—
Cyclohexane	R	NR	R	R	R	—	—	—	R	—	R	—	R	—	R	—	R	—
Cyclohexanol	R	LR	R	R	R	—	—	—	R	—	R	—	—	—	R	—	—	—
Cyclohexanone	R	NR	R	LR	R	—	—	—	R	—	R	—	—	—	R	—	N	—
Detergents	R	R	R	R	R	R	R	—	R	R	—	—	—	—	R	R	—	—
Dextrin	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	—	—
Dibutyl phthalate	R	LR	R	LR	—	—	—	—	—	—	R	R	—	—	R	LR	NR	NR
Diesel fuel	R	LR	R	LR	R	R	—	—	R	R	R	R	R	R	LR	NR	R	—
Diethyl ether	R	NR	LR	LR	R	R	—	—	R	R	R	—	R	—	R	—	NR	NR
Diethylamine	R	R	R	R	—	—	—	—	—	—	R	—	—	—	—	—	R	—
Diethylene	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diglycolic acid–30%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diisooctyl phthalate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimethyl phthalate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimethylamine	R	R	—	—	—	—	—	—	—	—	R	—	—	—	—	—	—	—
Dioctyl phthalate	R	LR	—	—	—	—	—	—	—	—	R	—	—	—	—	—	—	—
Ethyl acetate	R	LR	R	LR	R	NR	R	LR	R	NR	R	—	—	—	LR	LR	NR	NR
Ethyl alcohol (ethanol)	R	R	R	R	R	R	R	LR	R	R	R	—	R	—	—	—	LR	LR
Ethyl ether	LR	LR	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylamine	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene chloride	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene glycol	R	R	R	R	R	LR	R	LR	R	LR	R	LR	—	—	R	—	LR	—
Ferric or ferrous compounds	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	—	—	LR	—
Ferric chloride	R	R	R	R	R	R	—	—	LR	—	LR	—	LR	—	—	—	R	—
Ferrous chloride	R	R	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Ferric nitrate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Ferrous nitrate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferric or ferrous sulfate	R	R	R	R	—	—	R	R	—	—	—	—	—	—	—	—	R	—
Fertilizers	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—	—	—
Formaldehyde–30%	R	R	R	R	R	R	—	—	R	R	R	—	R	NR	R	—	NR	NR
Formic acid–10%	R	—	R	R	LR	LR	LR	—	LR	LR	NR	NR	LR	NR	R	LR	NR	NR
Formic acid–85%	R	LR	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	LR	NR	NR	NR
Freon	R	LR	R	R	R	R	—	—	R	R	R	—	—	—	R	R	—	—
Fuel oils	R	LR	R	LR	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Furfural	—	NR	R	R	R	—	—	—	R	—	R	—	—	—	R	—	—	—
Gasoline	R	NR	R	LR	R	R	R	R	R	R	R	—	R	R	R	LR	LR	—
Glucose	R	R	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Glycerin	R	R	R	R	R	R	—	—	R	R	R	LR	R	R	R	LR	R	—
Glycerol	R	R	—	—	R	LR	—	—	R	LR	—	—	R	R	—	—	—	—
n-Heptane	LR	NR	R	LR	R	—	R	LR	R	—	R	—	R	R	R	R	R	—
Hexane	R	NR	R	LR	R	R	R	R	R	R	R	—	R	R	R	R	R	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Hydrobromic acid–10%	R	R	R	R	LR	—	—	—	LR	—	NR	NR	—	—	LR	—	NR	NR
Hydrochloric acid	R	R	R	R	NR	NR	R	R	NR	NR	NR	NR	NR	NR	LR	LR	NR	—
Hydrochloric acid–2%	—	—	R	R	LR	NR	R	R	LR	NR	NR	NR	NR	NR	R	—	R	—
Hydrochloric acid–10%	R	R	R	R	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	R	—	—	—
Hydrochloric acid–38%	R	LR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—	—	—	—
Hydrofluoric acid–10%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	LR	NR	NR	NR
Hydrofluoric acid–35%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Hydrofluoric acid–50%	R	LR	R	LR	NR	NR	—	—	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Hydrogen peroxide–3%	R	R	R	R	R	R	R	LR	R	R	NR	NR	R	R	R	LR	R	—
Hydrogen peroxide–30%	R	LR	LR	NR	NR	NR	LR	LR	NR	NR	NR	NR	LR	NR	R	LR	LR	—
Hydrogen peroxide–90%	LR	LR	LR	NR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	—	—	NR	NR
Hydrogen sulfide	R	R	R	R	LR	—	—	—	LR	—	LR	—	R	R	R	—	R	—
Hydroiodic acid	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Igepal	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—	—	—
Iodine	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	—	—	R	—
Isobutyl alcohol	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Isopropyl alcohol	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	—	R	—
Isooctane	NR	NR	R	—	—	—	—	—	—	—	R	R	R	R	—	—	NR	—
Jet fuel	LR	NR	—	—	R	R	—	—	R	R	—	—	—	—	R	—	R	—
Kerosene	R	NR	R	LR	R	R	—	—	R	R	—	—	—	—	R	R	R	—
Lactic acid–10%	—	—	R	R	R	LR	R	R	R	LR	R	NR	R	R	R	—	LR	—
Lactic acid–80%	R	R	R	R	R	NR	—	—	R	NR	NR	NR	NR	NR	—	—	NR	—
Lactose	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lanolin	R	LR	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Lard	—	—	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Lauric acid	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead acetate	R	R	R	R	—	—	—	—	—	—	R	—	—	—	R	—	R	—
Lemon oil	LR	NR	R	R	—	—	—	—	—	—	—	—	R	—	—	—	R	—
Ligroin	LR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lime sulfur	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linseed oil	R	R	R	R	R	R	—	—	R	R	R	—	R	R	—	—	R	—
Lubricating oil	R	LR	R	LR	R	—	—	—	R	—	R	LR	R	R	R	R	R	—
Magnesium compounds	R	R	R	R	—	—	—	—	—	—	LR	—	R	—	—	—	NR	—
Magnesium carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Magnesium chloride	R	R	R	R	R	—	LR	—	R	—	R	—	R	—	R	—	R	—
Magnesium hydroxide	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	—	—	R	—
Magnesium nitrate	R	R	R	R	R	—	—	—	R	—	R	—	—	—	R	—	R	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Magnesium sulfate	R	R	R	R	R	—	—	—	R	—	R	—	—	—	R	—	R	—
Malic acid	R	LR	R	R	NR	NR	—	—	NR	NR	—	—	NR	NR	R	—	R	—
Maple syrup	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese sulfate	R	L	R	R	—	R	—	—	—	R	R	—	R	—	R	—	—	—
Margarine	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Meat juices or sauces	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercuric compounds	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Mercuric chloride	R	R	R	R	—	—	—	—	—	—	NR	NR	R	—	—	—	R	—
Mercury	R	R	R	R	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Methyl alcohol	R	R	R	R	R	R	LR	LR	R	R	LR	—	R	R	NR	NR	LR	—
Methyl cellosolve	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methyl chloride	NR	NR	LR	—	R	—	—	—	R	—	R	—	—	—	—	—	—	—
Methyl ethyl ketone	R	R	R	NR	LR	LR	LR	LR	LR	LR	R	—	R	R	NR	NR	LR	—
Methyl isobutyl ketone	R	R	R	NR	—	—	—	—	—	—	—	—	R	R	—	—	NR	NR
Methylene chloride	LR	NR	LR	LR	NR	NR	NR	NR	NR	NR	LR	—	NR	NR	NR	NR	NR	NR
Methylsulfuric acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Milk	R	R	R	R	R	—	—	—	R	—	LR	—	R	R	R	—	R	—
Mineral oil	R	LR	R	LR	R	R	—	—	R	R	—	—	R	R	R	R	R	—
Mineral spirits	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Molasses	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—	R	—
Motor oil	R	NR	R	LR	R	R	R	R	R	R	R	—	R	R	R	LR	R	—
Naphtha	R	LR	R	LR	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Nickel compounds	R	R	R	R	—	—	—	—	—	—	LR	—	LR	—	—	—	—	—
Nickel chloride	R	R	R	R	R	—	—	—	R	—	R	—	—	—	R	—	R	—
Nickel nitrate	R	R	R	R	—	—	—	—	—	—	R	—	R	R	R	—	R	—
Nickel sulfate	R	R	R	R	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Nitric acid–10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	R	LR	NR	NR
Nitric acid–30%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Nitric acid–50%	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Nitric acid–fuming	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Nitrobenzene	R	LR	NR	LR	LR	—	—	—	LR	—	LR	NR	LR	LR	R	—	NR	NR
Nitrous acid	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nut oil	R	—	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nutmeg oil	NR	NR	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrous oxide	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Oleic acid	R	L	R	LR	R	—	—	—	R	—	R	R	R	NR	R	R	R	—
Olive oil	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Orange oil	R	—	—	—	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Oxalic acid–10%	R	R	R	R	NR	NR	—	—	NR	NR	LR	NR	R	LR	R	R	—	—
Oxalic acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	—	—	—	—	R	—	—	—
Oxygen (atmospheric pressure)	R	R	R	R	R	—	—	—	R	—	R	R	R	R	R	—	R	—
Ozone	LR	NR	LR	NR	NR	NR	—	—	NR	NR	NR	NR	R	—	LR	NR	R	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Palm nut oil	R	—	R	—	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Palmitic acid	R	R	R	R	—	—	—	—	—	—	R	—	—	—	R	R	R	—
Peanut oil	R	LR	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Peppermint oil	R	NR	R	R	—	—	—	—	—	—	—	—	R	—	—	—	—	—
Perchloric acid–20%	R	R	R	R	NR	NR	—	—	NR	NR	—	—	NR	NR	—	—	NR	NR
Perchloroethylene	NR	NR	NR	NR	—	—	—	—	—	—	LR	NR	LR	NR	—	—	—	—
Peroxyacetic acid	R	R	—	—	NR	NR	R	R	NR	NR	NR	NR	LR	NR	—	—	R	—
Phthalic acid–50%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phenol	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Phenol–5%	R	R	R	LR	NR	NR	—	—	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR
Phosphoric acid–10%	R	R	R	R	NR	NR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric Acid–30%	R	R	R	R	NR	NR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric acid–85%	R	R	R	LR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Photographic solutions	R	R	LR	LR	R	—	—	—	R	—	—	—	R	R	R	R	R	—
Pineapple juice	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plating solutions	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Potassium compounds	R	R	R	R	—	—	—	—	—	—	R	—	—	—	R	R	NR	—
Potassium carbonate	R	R	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Potassium chlorate	R	R	R	R	—	—	—	—	—	—	—	—	R	LR	—	—	—	—
Potassium chloride	R	R	R	R	R	R	—	—	R	R	R	R	R	R	R	LR	R	—
Potassium hydroxide	R	R	R	R	LR	—	R	—	LR	—	LR	—	R	R	R	R	R	—
Potassium iodine	R	—	R	R	—	—	—	—	—	—	—	—	R	R	—	—	R	—
Potassium iodide (3% iodine)	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Potassium permanganate–1%	R	R	R	R	R	—	—	—	R	—	NR	NR	NR	NR	R	LR	NR	NR
Potassium sulfate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	—	—	R	—
Silicone	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silicone oil	R	R	R	R	R	R	—	—	R	R	R	R	R	R	R	R	R	—
Silver cyanide	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silver nitrate	R	R	R	R	—	—	—	—	—	—	R	—	—	—	—	—	R	—
Sodium acetate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	—	—	R	—
Sodium bicarbonate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	R	LR	R	—
Sodium bisulfate	R	R	R	R	R	—	—	—	R	—	—	—	R	—	R	—	R	—
Sodium bisulfite	R	R	R	R	NR	NR	NR	—	NR	NR	—	—	R	LR	R	LR	—	—
Sodium borate	R	—	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Sodium bromide	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	—	—	—	—
Sodium carbonate	R	R	R	R	R	R	—	—	R	R	R	—	R	R	R	LR	R	—
Sodium chlorate	R	R	R	R	R	R	—	—	R	R	R	—	R	LR	—	—	R	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Sodium chloride	R	R	R	R	—	—	R	—	—	—	R	—	R	LR	R	—	R	—
Sodium cyanide	R	R	R	R	R	—	—	—	R	—	R	—	—	—	—	—	NR	NR
Sodium fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Sodium hydroxide–10%	R	R	R	R	R	R	R	NR	R	R	LR	NR	R	R	R	—	R	—
Sodium hydroxide–50%	R	R	R	R	LR	—	LR[a]	NR	LR	—	NR	NR	R	R	—	—	NR	—
Sodium hypochlorite–5% Cl	R	LR	R	—	NR	NR	LR[a]	—	NR	NR	LR	NR	R	NR	LR	NR	R	—
Sodium hypochlorite–12.5% Cl	R	LR	LR	NR	NR	NR	—	—	NR	NR	NR	NR	—	NR	LR	NR	—	—
Sodium nitrate	R	R	R	R	R	R	—	—	R	R	R	—	R	R	R	—	R	—
Sodium phosphate	R	—	R	R	R	—	—	—	R	—	—	—	R	R	—	—	—	—
Stannic chloride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	LR	—
Stannous chloride	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	R	—
Starch	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Starch syrup	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stearic acid	R	—	R	LR	R	—	—	—	R	—	R	—	R	NR	R	—	R	—
Succinic acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sucrose	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sugar	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Sulfamic acid–20%	R	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfate liquors	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfur	R	R	R	R	R	—	—	—	R	—	R	—	R	—	—	—	—	—
Sulfur chloride	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Sulfur dioxide	R	R	R	R	NR	—	—	—	NR	—	R	LR	R	R	R	—	LR	—
Sulfuric acid–3%	R	R	R	R	LR	—	R	R	LR	—	NR	NR	NR	NR	R	R	R	—
Sulfuric acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	R	—	—	—
Sulfuric acid–70%	R	LR	R	LR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	—	—	—	—
Sulfuric acid–Fuming	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	LR	LR	—	—
Sulfurous acid	R	LR	R	R	—	—	—	—	—	—	LR	—	—	—	R	—	R	—
Tallow	R	R	R	R	R	—	—	—	R	—	—	—	—	—	R	—	—	—
Tannic acid–10%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Tartaric acid	R	R	R	R	R	—	—	—	R	—	R	LR	R	LR	R	—	R	—
Tetrahydrofuran	R	LR	NR	NR	LR	—	—	—	LR	—	R	—	R	NR	LR	NR	NR	NR
Toluene	R	NR	LR	NR	R	R	R	LR	R	R	R	R	R	R	R	R	NR	NR
Tomato juice	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Transformer oil	R	NR	R	LR	—	—	—	—	—	—	R	—	R	R	R	R	—	—
Tributyl phosphate	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Trichloroacetic acid	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Trichloroethylene	R	NR	—	—	NR	NR	NR	NR	NR	NR	—	—	—	—	—	—	—	—
Tricresyl phosphate	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trisodium phosphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Turpentine oil	R	NR	LR	NR	R	—	—	—	R	—	R	—	R	LR	R	—	—	—

Chemical Name	General Application Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Urea	R	R	R	R	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Varnish	R	—	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaseline	R	R	LR	LR	R	—	R	R	R	—	R	—	R	R	R	—	—	—
Vegetable oil	—	—	R	LR	R	—	—	—	R	—	—	—	—	—	R	R	—	—
Vinegar	R	R	R	R	R	—	—	—	R	—	—	—	R	LR	—	—	R	—
Wine	R	R	R	—	R	—	R	R	R	—	—	—	R	R	R	—	—	—
Xylene	NR	NR	LR	NR	R	R	—	—	R	R	R	R	R	R	LR	NR	NR	NR
Zinc compounds	R	R	R	R	—	—	—	—	—	—	LR	—	LR	—	R	R	LR	—
Zinc carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Zinc chloride	R	R	R	R	R	—	R	R	R	—	NR	NR	R	R	R	—	R	—
Zinc oxide	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Zinc sulfate	R	R	R	R	—	—	—	—	—	—	LR	—	R	R	R	—	R	—

[a] Limited resistance rating due to discoloration.

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