



WL PLASTICS
An INEOS Business

WL134 Power & Communications Conduit



Conduit, Power & Telecom

The ideal piping solution

WL134 Power & Communications Conduit

Smoothwall conduit product overview

Product features

- Manufactured with the highest quality HDPE materials
 - Classified to ASTM D3350
 - Meet or exceed cell class PE334480C or E
 - No recycled or filler materials
- Ideal protective pathway for power and communication installations
 - Flexible, durable, and impact resistant
 - Non-corrosive and resistant to chemicals
 - Protects against rock and root impingement
 - Ductile at low temperatures
- Long continuous lengths on reels for ease of installation

Product options

- Diameters ranging from 3/4" to 12"
- Variety of wall dimensions (SDR, SIDR, SCH40 & SCH80)
- Custom colors, stripes, lengths, and print-lines
- Pre-installed pull tape available
- Segmented reels available
- Manufactured in accordance with industry standards
 - ASTM F2160
 - NEMA TC-7
 - UL 651A Listed

Raw material overview

WL Plastics conduit pipe is manufactured from high density polyethylene compounds that meet or exceed ASTM D 3350 requirements and cell classification PE435540A.

Typical Physical Properties for WL Plastics HDPE conduit pipe compound

| Physical property | Test method | Typical value |
|---|----------------|-------------------------------|
| Cell classification | ASTM D3350 | PE435540A |
| Melt index (190/2.16) | ASTM D1238 | 0.3 g/10 min |
| High load melt index (190/21.6) | ASTM D1238 | 6-26 g/10 min |
| Density natural resin (73°F/23°C) | ASTM 792/D1505 | 0.941-0.949 g/cm ³ |
| Tensile strength at yield (2 in/min; 73°F/23°C) | ASTM D638 | 3500-4000 psi |
| Tensile elongation (2 in/min; 73°F/23°C) | ASTM D638 | >600% |
| Flexural modulus (73°F/23°C) | ASTM D790 | >130,000 psi |
| SCR, Condition B (100% Igepal) | ASTM D1693 | > 1000 h |
| Thermal stability | ASTM D3350 | >428°F (> 220°C) |
| Low temperature brittleness | ASTM D746 | <-103°F (<-75°C) |
| Thermal expansion coefficient | ASTM D1822 | 9 x 10 ⁻⁵ in/in/F |
| Tensile impact | ASTM D1822 | 277 ft-lb/in |

Smoothwall conduit sizes

SDR product dimensions

| Pipe size ^{A/D} | Avg OD, in | SDR ^D | 7 | 9 | 11 | 13.5 | | | |
|--------------------------|------------|--------------------------|--------|--------|--------|--------|---|------------|------------|
| .75" | 1.050 | Min wall, in | 0.150 | 0.117 | 0.095 | 0.078 | *Products greater than 6" in diameter. Schedule 40 products greater than SDR 15.5 and SDR 17 products are available in stick lengths only. WL offers these products in stick lengths to ensure product quality and to limit pipe ovality. | | |
| | | Avg ID ^C , in | 0.732 | 0.803 | 0.848 | 0.874 | | | |
| | | Weight, lb/ft | 0.187 | 0.148 | 0.124 | 0.103 | | | |
| 1" | 1.315 | Min wall, in | 0.15 | 0.146 | 0.120 | 0.097 | | | |
| | | Avg ID ^C , in | 0.917 | 1.005 | 1.062 | 1.206 | | | |
| | | Weight, lb/ft | 0.288 | 0.232 | 0.195 | 0.101 | | | |
| 1.25" | 1.000 | Min wall, in | 0.237 | 0.184 | 0.151 | 0.123 | | | |
| | | Avg ID ^C , in | 1.157 | 1.269 | 1.340 | 1.399 | | | |
| | | Weight, lb/ft | 0.459 | 0.369 | 0.310 | 0.257 | | | |
| 1.5" | 1.900 | Min wall, in | 0.271 | 0.211 | 0.173 | 0.141 | | | |
| | | Avg ID ^C , in | 1.825 | 1.452 | 1.534 | 1.801 | | | |
| | | Weight, lb/ft | 0.600 | 0.485 | 0.406 | 0.337 | 15.5* | 17* | |
| 2" | 2.375 | Min wall, in | 0.339 | 0.284 | 0.216 | 0.178 | 0.153 | 0.140 | |
| | | Avg ID ^C , in | 1.656 | 1.816 | 1.917 | 2.002 | 2.050 | 2.079 | |
| | | Weight, lb/ft | 0.930 | 0.758 | 0.634 | 0.526 | 0.462 | 0.425 | |
| 2.5" | 2.875 | Min wall, in | 0.411 | 0.319 | 0.261 | 0.213 | 0.185 | 0.169 | |
| | | Avg ID ^C , in | 2.004 | 2.188 | 2.521 | 2.424 | 2.492 | 2.516 | |
| | | Weight, lb/ft | 1.371 | 1.109 | 0.928 | 0.771 | 0.677 | 0.622 | 21* |
| 3" | 3.500 | Min wall, in | 0.500 | 0.389 | 0.318 | 0.259 | 0.226 | 0.208 | 0.167 |
| | | Avg ID ^C , in | 2.440 | 2.676 | 2.625 | 2.950 | 3.021 | 3.064 | 3.147 |
| | | Weight, lb/ft | 1.377 | 1.846 | 1.378 | 1.141 | 1.006 | 0.923 | 0.757 |
| 4" | 4.500 | Min wall, in | 0.643 | 0.500 | 0.400 | 0.339 | 0.290 | 0.265 | 0.214 |
| | | Avg ID ^C , in | 3.137 | 3.440 | 3.633 | 3.799 | 3.885 | 3.939 | 4.048 |
| | | Weight, lb/ft | 3.372 | 2.720 | 2.275 | 1.887 | 1.080 | 1.528 | 1.247 |
| 5" | 5.553 | Min wall, in | 0.795 | 0.818 | 0.500 | 0.412 | 0.359 | 0.327 | 0.265 |
| | | Avg ID ^C , in | 3.878 | 4.253 | 4.491 | 4.689 | 4.802 | 4.869 | 5.001 |
| | | Weight, lb/ft | 5.154 | 4.156 | 3.479 | 2.886 | 2.540 | 2.328 | 1.909 |
| 6* | 6.825 | Min wall, in | 0.946 | 0.738 | 0.802 | 0.491 | 0.427 | 0.380 | 0.315 |
| | | Avg ID ^C , in | 4.619 | 5.064 | 5.348 | 5.585 | 6.719 | 5.799 | 5.956 |
| | | Weight, lb/ft | 7.305 | 5.894 | 4.930 | 4.095 | 3.599 | 3.307 | 2.703 |
| 8** | 8.625 | Min wall, in | 1.232 | 0.858 | 0.784 | 0.639 | 0.558 | 0.507 | 0.411 |
| | | Avg ID ^C , in | 6.013 | 6.583 | 6.063 | 7.271 | 7.445 | 7.549 | 7.754 |
| | | Weight, lb/ft | 12.385 | 9.988 | 8.359 | 8.939 | 6.100 | 5.597 | 4.591 |
| 10** | 10.750 | Min wall, in | 1.596 | 1.184 | 0.977 | 0.796 | 0.894 | 0.632 | 0.512 |
| | | Avg ID ^C , in | 7.494 | 8.218 | 8.878 | 9.082 | 9.280 | 9.409 | 8.665 |
| | | Weight, lb/ft | 19.245 | 15.515 | 12.983 | 10.774 | 9.490 | 8.685 | 7.128 |
| 12** | 12.750 | Min wall, in | 1.821 | 1.417 | 1.159 | 0.944 | 0.823 | 0.750 | 0.607 |
| | | Avg ID ^C , in | 8.889 | 9.747 | 10.298 | 10.748 | 11.006 | 11.160 | 11.483 |
| | | Weight, lb/ft | 27.062 | 21.837 | 18.287 | 15.155 | 13.348 | 12.238 | 10.023 |

Smoothwall conduit sizes

Schedule product dimensions

| Pipe size ^{A/D} | Avg OD, in | Schedule ^B | 40 | 80 |
|--------------------------|------------|--------------------------|-------|-------|
| .75" | 1.05 | Min wall, in | 0.113 | |
| | | Avg ID ^C , in | 0.81 | |
| | | Weight, lb/ft | 0.144 | |
| 1" | 1.315 | Min wall, in | D.133 | 0.179 |
| | | Avg ID ^C , in | 1.033 | 0.938 |
| | | Weight, lb/ft | 0.214 | 0.277 |
| 1.25" | 1.66 | Min wall, in | 0.14 | 0.191 |
| | | Avg ID ^C , in | 1.363 | 1.255 |
| | | Weight, lb/ft | 0.289 | 0.382 |
| 1.5" | 1.9 | Min wall, in | 0.145 | 0.200 |
| | | Avg ID ^C , in | 1.593 | 1.476 |
| | | Weight, lb/ft | 0.346 | 0.482 |
| 2" | 2.375 | Min wall, in | 0.154 | 0.218 |
| | | Avg ID ^C , in | 2.049 | 1.913 |
| | | Weight, lb/ft | 0.485 | 0.639 |
| 3" | 3.5 | Min wall, in | 0.216 | 0.300 |
| | | Avg ID ^C , in | 3.042 | 2.864 |
| | | Weight, lb/ft | 0.985 | 1.305 |
| 4" | 4.5 | Min wall, in | 0.237 | 0.837 |
| | | Avg ID ^C , in | 3.998 | 3.786 |
| | | Weight, lb/ft | 1.374 | 1.908 |
| 6* | 6.625 | Min wall, in | | 0.432 |
| | | Avg ID ^C , in | | 5.708 |
| | | Weight, lb/ft | | 3.038 |

SIDR product dimensions

| Pipe size ^{A/D} | Min. inside diameter, in | SIDR ^B | 11.5 |
|--------------------------|--------------------------|--------------------|-------|
| 1" | 1.049 | Min wall, in | 0.091 |
| | | Wall tolerance, in | 0.020 |
| | | Avg. OD, in | 1.246 |
| | | Weight, lb/ft | 0.143 |
| 1.25" | 1.380 | Min wall, in | 0.120 |
| | | Wall tolerance, in | 0.020 |
| | | Avg. OD, in | 1.635 |
| | | Weight, lb/ft | 0.247 |
| 2" | 2.067 | Min wall, in | 0.180 |
| | | Wall tolerance, in | 0.022 |
| | | Avg. OD, in | 2.447 |
| | | Weight, lb/ft | 0.555 |
| 4" | 4.026 | Min wall, in | 0.350 |
| | | Wall tolerance, in | 0.042 |
| | | Avg. OD, in | 4.768 |
| | | Weight, lb/ft | 2.103 |
| 6* | 6.056 | Min wall, in | 0.527 |
| | | Wall tolerance, in | 0.063 |
| | | Avg. OD, in | 7.183 |
| | | Weight, lb/ft | 4.770 |

Contact WL Plastics plant customer service to confirm availability and for sizes and DRs not shown.

- Conduit pipe sizes/diameters per ASTM F2160
- SDR (Standard Dimension Ratio) Schedules SIDR (Standard Inside Dimension Ratio) per ASTM F2160.
- Calculated Avg ID = Avg OD - (2.12 x min wall). Pipe ID is approximate, and not a specification dimension. All dimensions in inches
- The information in this publication does not constitute a guarantee or warranty for piping installations and cannot be guaranteed because the conditions of use are beyond WL Plastics control. See WL125 Terms and Conditions of Sale. The user of this information assumes all risk associated with its use. Changes to this publication may occur from time to time without notice. Contact WL Plastics to determine if you have the most current edition.



UL listed conduit sizes

UL listed product dimensions

| Pipe size | Avg OD, in | | Schedule 40 | Schedule 80 | EPEC-B (DR 13.5) |
|-----------|---------------|--------------------------|----------------|----------------|---------------------|
| 1" | 1.315 | Min wall, in | 0.133 | 0.179 | 0.097 |
| | | Avg ID ^c , in | 1.033 | 0.936 | 1.206 |
| | | Weight, lb/ft | 0.214 | 0.277 | 0.161 |
| 1.25" | 1.66 | Min wall, in | 0.14 | 0.191 | 0.123 |
| | | Avg ID ^c , in | 1.363 | 1.255 | 1.399 |
| | | Weight, lb/ft | 0.289 | 0.382 | 0.257 |
| 1.5" | 1.9 | Min wall, in | 0.145 | 0.2 | 0.141 |
| | | Avg ID ^c , in | 1.593 | 1.476 | 1.601 |
| | | Weight, lb/ft | 0.346 | 0.462 | 0.337 |
| 2" | 2.375 | Min wall, in | 0.154 | 0.218 | 0.176 |
| | | Avg ID ^c , in | 2.049 | 1.913 | 2.002 |
| | | Weight, lb/ft | 0.465 | 0.639 | 0.526 |
| 3" | 3.5 | Min wall, in | 0.216 | 0.3 | 0.259 |
| | | Avg ID ^c , in | 3.042 | 2.864 | 2.950 |
| | | Weight, lb/ft | 0.965 | 1.305 | 1.141 |
| 4"* | 4.5 | Min wall, in | 0.237 | 0.337 | 0.333 |
| | | Avg ID ^c , in | 3.998 | 3.786 | 3.793 |
| | | Weight, lb/ft | 1.374 | 1.908 | 1.887 |
| 6"* | 6.625 | Min wall, in | 0.28 | 0.432 | 0.491 |
| | | Avg ID ^c , in | 6.031 | 5.709 | 5.585 |
| | | Weight, lb/ft | 2.416 | 3.638 | 4.095 |

*Products greater than 6" in diameter, Schedule 40 products greater than 3" in diameter, and all SDR 15.5 and SDR 17 products are available in stick lengths only.

WL offers these products in stick lengths to ensure product quality and limit pipe ovality.




Reel and truck capacity

Standard lengths per reel (in feet)

| Pipe diameter | 66" reel | 84" reel | 96" reel | | | | 102" reel | | | | 120" reel |
|-----------------|----------|----------|----------|--------|--------|-------|-----------|--------|--------|--------|-----------|
| | Single | Single | Single | Double | Triple | Quad | Single | Double | Triple | Quad | Single |
| .75" | 10,000 | 12,000 | 15,000 | 14,000 | | | | | | | |
| 1" | 6,000 | 8,000 | 10,000 | 10,000 | 9,800 | 9,500 | 12,000 | 12,000 | 12,000 | 12,000 | |
| 1.25" | 3,350 | 6,500 | 8,000 | 8,000 | 7,500 | 7,200 | 10,000 | 8,800 | 8,400 | 8,200 | |
| 1.5" | 2,200 | 3,500 | 6,000 | 5,600 | 5,400 | 5,000 | 7,000 | 6,800 | 6,600 | 6,400 | |
| 2" | 1,100 | 3,000 | 4,000 | 4,000 | 3,300 | 3,200 | 5,000 | 4,200 | 4,000 | | |
| 2" SIDR 11.5 | | 1,500 | 4,000 | | | | 4,500 | | | | |
| 2.5" | | 1,500 | 2,000 | | | | 2,500 | | | | |
| 3" | | | | | | | 1,200 | | | | |
| 4" | | | | | | | 800 | | | | 1,250 |
| 4" SIDR 11.5 | | | | | | | 700 | | | | 1,100 |
| 5" | | | | | | | | | | | 750 |
| 6" | | | | | | | | | | | 450 |
| 6" SIDR 11.5 | | | | | | | | | | | 450 |

Standard truckload capacity

| Reel size | Reels per truck |
|-----------|-----------------|
| 66 | 16 |
| 84 | 14 |
| 96 | 12 |
| 102 | 12 |
| 120 | 8 |



Engineering information

Bend radius guidelines

| Pipe size | Bend radius | |
|-----------|-------------|-------------|
| | Supported | Unsupported |
| .75" | 10 | 20 |
| 1" | 13 | 26 |
| 1.25" | 17 | 34 |
| 1.5" | 19 | 38 |
| 2" | 24 | 48 |
| 2.5" | 29 | 58 |
| 3" | 39 | 78 |
| 4" | 50 | 100 |
| 5" | 61 | 122 |
| 6" | 73 | 146 |
| 8" | 155 | 233 |
| 10" | 194 | 290 |
| 12" | 230 | 344 |

Contact WL Plastics Engineering for technical information not shown.

When installing conduit, large radius sweeping bends are recommended

| Bend radius | Supported bend radius | Unsupported bend radius |
|-------------|-----------------------|-------------------------|
| .5"-2.5" | 10 x outside diameter | 20 x outside diameter |
| 3"-6" | 11 x outside diameter | 22 x outside diameter |
| 83"-12" | 18 x outside diameter | 27 x outside diameter |

Safe working loads calculated based on up to a 12-hour pull, minimum resin tensile of 3,000 psi, average OD, minimum wall thickness and using a 20% factor

Safe pullback force

Pullback load (lbf)

| Pipe Diameter | Average OD | SDR 9 | SDR 11 | SDR 13.5 | SDR 15.5 | SDR 17 | Schedule 40 | Schedule 80 |
|---------------|------------|---------|--------|----------|----------|--------|-------------|-------------|
| .75" | 1.050 | 780 | 653 | | | | 758 | 988 |
| 1" | 1.315 | 1,224 | 1,024 | 850 | | | 1,273 | 1,457 |
| 1.25" | 1.660 | 1,950 | 1,631 | 1,354 | | | 1,524 | 2,010 |
| 1.5" | 1.900 | 2,554 | 2,137 | 1,774 | | | 1,823 | 2,435 |
| 2" | 2.375 | 3,990 | 3,340 | 2,771 | 2,439 | 2,237 | 2,450 | 3,368 |
| 2.5" | 2.875 | 5,847 | 4,893 | 4,061 | 3,573 | 3,278 | 3,885 | 5,138 |
| 3" | 3.500 | 8,666 | 7,252 | 6,018 | 5,296 | 4,858 | 5,081 | 6,876 |
| 4" | 4.500 | 14,326 | 11,987 | 9,948 | 8,754 | 8,030 | 7,237 | 10,049 |
| 5" | 5.563 | 21,893 | 18,320 | 15,204 | 13,379 | 12,272 | 9,804 | 13,935 |
| 6" | 6.625 | 31,050 | 25,982 | 21,563 | 18,974 | 17,405 | 12,725 | 19,163 |
| 8" | 8.625 | 52,627 | 44,037 | 36,547 | 32,159 | 29,500 | 19,150 | |
| 10" | 10.750 | 81,754 | 68,410 | 56,773 | 49,958 | 45,827 | 27,151 | |
| 12" | 12.750 | 115,003 | 96,232 | 79,863 | 70,276 | 64,466 | 35,898 | |



WL PLASTICS

An INEOS Business



Manufacturing locations

- Bowie, TX
- Casper, WY
- Cedar City, UT
- Elizabethtown, KY
- Lubbock, TX (HDPE)
- Lubbock, TX (MDPE)
- Rapid City, SD
- Snyder, TX
- Statesboro, GA
- Titusville, PA (HDPE/MDPE)

Corporate office

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Contact

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