

FLEXcon Window Graphics Technical Guide and Application Instructions

Printability

- UV and solvent screen inks
- UV and solvent, eco-solvent inkjet
- Conventional and UV offset with appropriate FLEXcon primer
- Water, solvent and UV flexo inks with appropriate FLEXcon primer
- Digital offset (HP Indigo) inks with appropriate FLEXcon primer

For any specific print inquiry, please contact your Technical Service Representative.

Graphic Design Considerations

Graphic design considerations for full window murals with southern, full sun exposure, particularly in cold weather months:

Dark printed graphics can absorb up to 95% of solar radiation; this solar heating can rapidly increase the temperature of the glass when the graphic is either interior or exterior mounted. If the glass is installed tight to the frame of the window, this phenomenon can cause a thermal induced expansion of the glass that can lead to glass breakage. Breakage can also occur in windows when the graphic only covers a portion of the glass.

Please work with your client to design a graphic where the graphic is not composed of large areas of dark and light color contrast.

FLEXcon will not be held responsible for glass breakage.

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UV Cured Inks

1. Allow minimum of 24 hours for post cure before overlaminating and/or cutting. Certain UV inks will continue to (post) cure after the initial cure. The ink's formulation specific to bond, durability and chemical resistance will continue to build and develop after the initial cure. Please be aware that some darker and opaque colors are more difficult to cure.
2. Watch for over-cured ink, as it will be brittle and chip and crack along the die-cut edge. Please check for bulb wattage, line speed, and flexibility of your ink.
3. Allow overlaminate to bond to printed surface for at least 12 hours prior to installation.
4. Wind print side or overlaminate side out onto a minimum of a 3" core to prevent tunneling.
5. Rolls should be stored at a minimum temperature of 50°F (10°C), and 50% relative humidity before installation.

Solvent Inkjet

1. Be sure all solvents are completely dried out of film before overlaminating and/or cutting. Do not wrap roll of film until all solvents have been completely dried. If product is not dried completely from solvents, it will curl and lift off of glass. Refer to solvent dryness test:
 - A. Place several printed sheets face to face under a 12" stack of media or under a weight of 2 pounds per square inch.
 - B. After 10 minutes, remove the sheets and check for blocking or surface impressions. If blocking or surface impressions are noted either increase the temperature and/or decrease the line speed, as additional drying is needed. Retest.
 - C. Residual solvents left in the media will certainly cause application failure. The edges of the graphic will begin to curl off of the window. The film will lose stability and become very elastic. The adhesive may also build in strength becoming more permanent than removable. Allow overlaminate to bond to printed surface for at least 12 hours before installation.
2. Wind print side or overlaminate side out onto a minimum of a 3" core to prevent tunneling.
3. Rolls should be stored at a minimum temperature of 50°F (10°C), and 50% relative humidity before installation.

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Application Environment

Products are intended for interior or exterior window graphics. Please refer to product specific application sheet for additional information.

Application Surface

Cleaned windows or glass.

Surface Inspection, Preparation & Installation

This information is intended as guidance only. We recommend that all surfaces be tested for compatibility. Factors such as cleanliness of the surface, as well as print, process, and installation method may impact the adhesion and success of the application.

- This product is designed to adhere to clean windows.
- All surfaces should be inspected prior to application.
- If cracks are present in the glass, inform the owner before installing.
*** FLEXcon is not responsible for broken glass. ***
- Be certain that windows are tight and secure within moldings and (holders).
- Avoid interior installation if windows can develop condensation.
- Check with owner to determine if window has anti-reflection, scratch resistant or other coating. Inform that this coating can get damaged upon graphic removal.
- Inquire with the owner/manager to determine if a rain repellant, wax or anti-graffiti agent has been used on the window. These chemicals will need to be stripped by using an orange citrus-based cleanser, degreaser or high strength cleaning solvent.
- The window must be thoroughly cleaned and properly dried before installation.
- Test your cleaning solutions by applying to an inconspicuous area and determine suitability.

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Surface Inspection, Preparation & Installation

- Do not use Windex®* or any ammonia-based cleansers.
- Use 4 to 6 drops of Joy®** detergent to one gallon of luke-warm water. Do not use soaps that contain lotion, cream, fragrance or ammonia. Wash and dry the window with paper or lint free towel.
- Use rubbing alcohol as the final cleanse and dry with paper or lint free towel. Do not allow the rubbing alcohol to dry by air.
- Apply a small swatch of the printed graphic to the prepared window surface in an inconspicuous area and allow the swatch to dwell for 72 hours. Slowly remove the graphic at a 45-90 degree angle and inspect for clean removability.
- If the sample swatch is lifting within 72 hours, suggest re-squeegeeing along the edges. If decal is still lifting, suggest the use of an edge seal.

*Windex® is a registered trademark of SC Johnson & Son, Inc.

**Joy® is a registered trademark of Procter & Gamble.

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Installation

Suggest professional graphic installation for full window murals. Professional installers can be hired to ensure proper application of finished graphics. Contact the Professional Decal Application Alliance for information on member installers and services by visiting <https://printerlink.printing.org/network/findaninstaller>.

- Please refer to specific product application sheets to determine dry or wet application.
- Printed graphic should be removed from its packaging, allowed to lay flat and acclimate to the environment prior to installation.
- The minimum application temperature is 50°F (10°C) for dry method and 64°F (18°C) for wet method - also refer to specific product application sheet.
- Cut the graphic to 1/2" oversize before applying to the glass.
- With liner still applied, place graphic up to window to check for fit and alignment, making certain that you can center your graphic properly.
- Be careful not to stretch the graphic. If installing a vinyl film, it is important to know that this film has a memory and when stretched, will ultimately relax, causing lifting and failure.
- Dependent on print method, outdoor application and length of service, the use of an overlamine may be necessary. Laminating the graphic will add dimensional stability, making the graphic easier to apply.
- Suggest leaving a 1/8"- 1/4" border so that graphic does not touch molding or frame.
- If graphic touches or is applied onto molding, it may lift along this area.
- Cold weather installation can pose many problems. Suggest mid-day installation on a sunny and dry day. This will allow time for the window to warm and will provide best possible outdoor conditions.
- Hot weather installation can pose additional problems as the adhesive may exhibit higher initial tack, making rework difficult. Suggest early morning installation or late evening installation.

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Installation Guidelines

Wet Method Benefits

Please refer to product specific application sheet to confirm if wet or dry application is recommended.

- Allows graphic to slide while positioning into place
- Reduces air bubbles and wrinkles
- Reduces static build up
- Suggested for larger size decals and full window murals

Wet Method Caution

Suggested application temperature is 64°F (18°C) minimum ambient temperature.

Some products, such as a clear window film will look milky white in appearance after installation. Squeegee pressure and your ability to remove excess water behind the graphic is critical. Climatic conditions such as humidity and air temperature may contribute to the length of time for this milky appearance to dissipate. If applying wet, please let the store owner/manager know that the graphic will appear milky for a period of time and then dissipate.

The use of an application tape is not recommended when applying graphics via the wet method. The adhesive will take a longer time to bond, and removal of an application tape that has stronger adherence to the graphic as compared to the adherence of the graphic adhesive to the window, may cause the graphic to lift upon application tape removal.

Do not let the liner get wet as the paper liner may delaminate and remove in layers, making liner removal more difficult.

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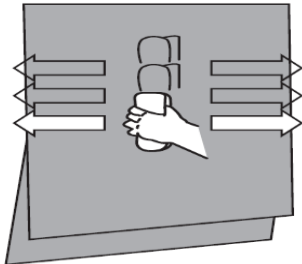
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Wet Method Guidelines

Lay out graphic on a flat surface with liner up. Carefully remove the liner and, using a spray bottle, mist the entire graphic on the exposed adhesive side. This spray bottle solution should contain either an approved application solution or a mixture of 4 to 6 drops of Joy[®]** detergent to one gallon of luke-warm water. Do not use soaps that contain lotion, cream, fragrance or ammonia.

Position the graphic at the top, making sure to align properly from the top to the sides.

You may use the discarded paper liner (release or slippery side out) as a buffer between the squeegee and the graphic during the installation process, by holding it in place or taping the liner into position over the printed graphic. By using the liner as a buffer, this ensures that the graphic does not get scratched from the squeegee.



Using a felt tip or flexible nylon squeegee, holding it at a slight upward angle and slightly turned from the center position, use even firm strokes starting at the center top working your way to the outer edges and continuing downward from the center, again to the outer edges.

If the graphic is not already precut to exact finished size; suggest lighter squeegee pressure the closer you get to the outer edges. Once the entire graphic is applied, razor cut the edges of the graphic. It is suggested that your graphic have a 1/8" - 1/4" border, and not be applied right up to the molding.

Squeegee again, this time, allowing more pressure along the edges of the graphic. Make certain that there is no residual water behind the graphic or along the edges of the graphic.

Use a lint free paper towel to wipe over the edges of the graphic to be certain that all water has been removed.

**Joy[®] is a registered trademark of Procter & Gamble.

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Dry Method Benefits

- No milky white appearance.
- Suggested for perforated film graphics.

Dry Method Caution

Suggested application temperature is 50°F (10°C) minimum, unless otherwise stated on specific product application sheet.

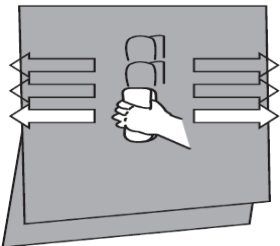
Minimum rework. Proper alignment is critical.

Squeegee marks may be evident on the adhesive side of the graphic, visible through the other side of the window. Please inform the store owner/manager that these visual marks will dissipate within 24 to 48 hours.

Air bubbles may form under the film. You may use a pin prick type tool to puncture a microscopic hole in the bubble. Use gentle pressure from your finger to press around this hole to work the air bubble out of the graphic.

Dry Method Guidelines

- Line up the graphic on the side that you favor - working from right to left or visa versa and make sure that it is aligned at the top. Be careful not to let the adhesive touch the frame or molding
- You may apply a masking type tape to the top areas of the graphic on the printed side as this will allow you to lightly tack the graphic into position.
- Bend back approximately two to six inches of the release liner from the top portion of the graphic. Align the graphic as close to the window as you can, using the top of the frame as a guide to ensure that the graphic will be aligned properly.
- Using a felt tip or flexible nylon squeegee, holding it in your dominate hand, at a slight upward angle and slightly turned from the center position, use even firm strokes starting at the center top working your way to the outer edges and continuing working in rows moving downward from the center, again to the outer edges.



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Dry Method Guidelines

- Be careful not to stretch the graphic, as the vinyl film has a memory and when stretched, will ultimately relax, causing lifting and failure.
- You will still have the liner applied to the lower portion of the graphic that has not been installed to the window. Do not squeegee to the liner. You should remove the liner to an excess of three times the squeegee height so that you are not tempted to squeegee to the liner. As you continue to squeegee in rows, continue to release the liner.
- If the graphic is not already precut to exact finished size; suggest lighter squeegee pressure the closer you get to the outer edges. Once the entire graphic is applied, razor cut the edges of the graphic. It is suggested that your graphic have a 1/8" - 1/4" border, and not be applied right up to the molding.
- Squeegee again, this time, allowing more pressure along the edges of the graphic.

*~ The typical performance data and recommendations for using FLEXcon products shall be used only as a guide.
All purchasers of FLEXcon products shall be responsible for independently determining the suitability of the
material for the purpose of its intended use. ~*

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