



Scotchcal™ Perforated Window Graphic Film IJ66

For Solvent and UV-Based Piezo Inkjet and Screen Printing Only

Product Description

Film IJ66 is a 5.8-mil vinyl film with a 40% perforated pattern and a removable, pressure-sensitive adhesive. This film allows a full image to be seen on the outside of a window while allowing viewing through architectural and non-regulated vehicle windows from the inside. This short-term promotional film is intended for piezo inkjet printing and screen printing.

These End Uses are Not Recommended

- Wet film application method
- Applications other than vertical window surfaces
- Application to windows that have built-in heating, defrosting elements or wipers
- Application to substrates with coatings such as anti-reflection and scratch resistance; such coatings may be damaged during film removal

Restricted End Uses

- 3M Commercial Graphics Division policy is not to support applications of perforated window graphic film when a driver's view is obstructed, which may include non-vertical windows, and/or where local laws prohibit its use.
- Applications that in any way restrict the safe operation of emergency window exits.
- Use on any regulated vehicle window

Important Information About Bus Applications

Film used on buses must not be applied so as to restrict the safe use of emergency window exits. See the most current version of Instruction Bulletin 5.4 for details.

Penalties for Non-Compliance

Failure to trim film away from rubber gaskets surrounding emergency exit windows can render an emergency exit inoperable. This may be a violation of public safety laws. Substantial penalties may be incurred for such a violation

Be Aware of All Laws and Regulations

Some countries have laws or regulations requiring minimum light transmission that may limit or preclude the use of this product on regulated vehicle windows, which may include passenger vehicles and vans. The user is responsible for determining and complying with all applicable standards.



State Laws & Regulations

Some states have laws or regulations requiring minimum light transmission that may limit or preclude the use of this product on regulated vehicle windows, which may include passenger vehicles and vans. The user is responsible for determining and complying with all applicable standards.



Optically Clear Viewing

Applications that require an optically-clear view, such as vehicle window exteriors, must be laminated with overlamine 8914. Failure to apply this overlamine could result in obstructed or impaired viewing when the product becomes wet.

Characteristics

All values are typical for unprocessed film and are not for use in specifications. Contact your 3M representative for a custom specification.

Physical Characteristics

Characteristic	Value
Material	Vinyl with a 40% perforation pattern
Color	White on the image side, black on the reverse side
Film thickness	Without adhesive: 5.8 mil (0.148 mm) With adhesive: 6.3 mil (0.162 mm)
Adhesive type	Pressure-sensitive
Adhesive color	Clear
Liner	Double-sided polycoated paper

Application Characteristics

Characteristic	Value
Finished graphic application recommendations	Surface type: Flat and simple curves Substrate type: Transparent substrates such as transparent acrylic, glass, polycarbonate, painted metal between vehicle windows Application temperature: <i>air and substrate</i> 50° to 100°F (10° to 38°C)
Application method	Dry
Finished graphic exposure temperature	-30° to +150°F (-25° to +65°C)
Graphic removal	Up to 6 months, from glass, acrylic, polycarbonate; may require heat

Warranty and Durability

3M Basic Product Warranty

This product has been tested and is believed to be a good product when used as recommended in this Bulletin. The film is covered by the 3M Basic Product Warranty and is guaranteed to be free of physical and manufacturing defects. There is no warranty for printability, visual appearance, fitness for use or durability. See the 3M Graphics Market Center Warranty Brochure for the complete warranty and remedy details.

Expected Performance Life

6 months in a vertical orientation with typical usage

3M Product and Instruction Bulletins provide practical recommendations for using this product in a way that maximizes performance, but using other 3M products or procedures with this film does not change the terms of the warranty.

Vertical Exposure



face of graphic The face of the graphic is $\pm 10^\circ$ from vertical.

Warranty and Limited Remedy

The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

Fabrication

This film has been optimized to perform well with a variety of solvent and UV piezo inkjet printers and inks. It is the graphic manufacturer's responsibility to determine the film's suitability for use with their printers and inks and intended applications.

To maximize the film performance:

- For piezo inkjet printing, the typical maximum ink limit is 250%.
- Thoroughly dry or the ink before storing or installing a graphic.
- Use graphic protection to avoid environmental factors such as dust, water, and dirt from gathering in the perforations. 3M™ Scotchcal™ Optically Clear Overlamine 8914 has been specially designed for use perforated window graphic films. Use a cold roll lamination method.
- If you are storing sheeted and stacked finished graphics for an extended period of time, we recommend leaving an unprinted margin (about 1/4 inch) to allow for possible shrinkage before trimming the graphic.

Cutting Recommendations

- Cold steel rule die
- Razor blade
- Sharp knife

Application Tapes

3M application tape may help with the application of a graphic. Graphics that have large amounts of exposed liner or are kiss cut use a prespacing application tape. If there is very little exposed liner, use a premasking application tape.

- Unprinted film
 - 3M™ Premasking Tape SCPM-3
 - 3M™ Prespacing Tape SCPS-2
- Film protected with overlamine 8914: do not use application tapes.

Application

- To maintain a consistent image if film IJ66 is applied to the narrow painted metal surfaces between windows, apply an opaque 3M vinyl film to the surfaces between windows before the perforated film is applied. The color of vinyl film used depends on the image you want.
- Use a dry application method.
- 3M Instruction Bulletin 5.4 has additional application details for vehicle and architectural windows including edge sealing and cutting around gaskets.

Removal

- Heat may be used to assist in removing the film. However, use caution to avoid breaking the glass. Remove at your own risk.
- Substrates with coatings such as anti-reflection and scratch resistance may be damaged during removal.
- Graphics protected by a screen print clear may be more difficult to remove than graphics protected by overlamine 8914.

Shelf Life, Storage and Shipping

Activity	Recommendations
Shelf life	Total shelf life: 6 months Up to 6 months unprocessed, <i>OR</i> Up to 3 months processed and applied within 3 months of processing
Storage conditions	<ul style="list-style-type: none">• 90°F (32°C) maximum• Out of direct sunlight• Clean, dry area• Original container• Bring film to room temperature before using.
Shipping finished graphics	Flat: may be separated by paper Roll: printed side out on 6 inch (15 cm) diameter or larger core

Health and Safety



CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at 3Mgraphics.com. The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M™ Scotchcal™ Optically Clear Overlaminate 8914	PB	8914
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, special applications and vehicles	IB	5.4
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Storage, handling, maintenance, removal	IB	6.5
3M Graphics Center Warranty Brochure	go to www.3Mgraphics.com , Bulletins	

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