



3M™ Scotchcal™ Clear View Graphic Film

8150; IJ8150

Product Bulletin

Product Description

3M™ Scotchcal™ Clear View Graphic Film is a highly transparent cast PVC printing film. Any design can be reproduced using digital or screen printing, while unprinted areas allow a very clear view through the glass.

It is no longer necessary to cut out printed elements from the film – instead the printed area is an integral part of the film, which is bonded in its entirety.

The film can also be used inside buildings, enabling architects and shop fitters to implement creative design ideas combined with functional purposes.

Despite its hard-wearing qualities, it can be easily removed when no longer required.

Product Line	Window decoration	8150	transparent, glossy, removable adhesive.
		IJ8150	transparent, glossy, removable adhesive.

Product Characteristics

These are typical values for unprocessed products.
Contact your 3M representative for a custom specification.

Physical & Application

Material	cast vinyl	
Surface finish	glossy	
Thickness (film)	50 µm (0.05 mm)	
Adhesive type	acrylic, pressure-sensitive	
Adhesive appearance	clear	
Liner	transparent synthetic	
Adhesion	approx. 12 N/25 mm	FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH

Application method	wet only!	
Applied shrinkage	< 0.1 mm	FTM 14

Application temperature minimum (air and substrate)	+10°C	for flat surfaces
	+10°C	for curved to corrugated surfaces with and without rivets

Notice!
For making scratch-free applications refer to section Application or refer to [>Instruction Bulletin Wet application 8150<](#)

Service temperature -50°C to +90°C

Surface type	flat to simple curved
Substrate type	glass, PMMA, PC*, PETG*, ABS
	*Might require drying with heat before use

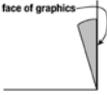
Graphic removal Good to remove without or little heat.

No liability is given for ease or speed of removal of any graphic. Pay attention to adequate air and substrate temperature.

Notice!
'Refer to [> Instruction Bulletin 'Recommendations How to remove 3M™ Scotchcal™ Clear View Graphic Film 8150' <](#)

Storage	Shelf life	Use within two years from the date of manufacture on the sealed original box. Use within one year after opening the box.
	Storage conditions	+4°C to +40°C, out of sunlight, original container in clean and dry area.

Flammability Flammability standards are different from country to country. Ask your local 3M contact for details, please.

Durability	Unprocessed film	The following durability data are given for unprocessed film only!		
	3M™ Performance Guarantee and MCS™ Warranty	In addition, 3M provides a guarantee/warranty on a finished applied graphic within the framework of 3M™ Performance Guarantee and/or 3M™ MCS™ warranty programs.		
		Visit www.3mgraphics.com for getting more details about 3M's comprehensive graphic solutions.		
	Climatic zones	Graphic durability is largely determined by the climate and the angle of exposure. Find below a table showing the durability of a product according to the angle of exposure and the geographical location of the application.		
		Zone 1	Northern Europe, Italy (north of Rome), Russia	
		Zone 2	Mediterranean area without North Africa, South Africa	
		Zone 3	Gulf area, Africa	
	Exposure types	Vertical:		The face of the graphic is ±10° from vertical.
	Vertical outdoor exposure	Zone 1	Zone 2	Zone 3
	transparent	7 years	6 years	5 years

Limitations of End Uses 3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs to recommend other products.

- Graphics applied to
 - applications other than window surfaces.
 - low surface energy substrates or substrates with low surface energy coating.
 - other than flat or simply curved surfaces.
- Graphic removal from
 - substrates with coatings (i.e.: anti-reflection, anti-scratch); coatings may be damaged during film removal.
- Graphics subjected to
 - gasoline vapors or spills.
- Important Notice
 - 3M Commercial Solutions products are not tested against automotive manufacturer specifications!
 - Non vertical applications will have a significant decrease in durability!
 - The user is responsible for determining and complying to laws and standards!
 - 3M accepts no liability for glass breakage when using this film for window graphics.

Graphics Manufacturing Graphic protection can improve the appearance, performance and durability of printed graphics. Any printed graphic exposed to abrasive conditions (including vehicles), harsh cleaners or chemicals must include graphic protection in order to be warranted.

When to use an overprint clear or overlaminate See instruction bulletin GPO 'graphic protection options' for further information about selection and use of protective overlaminates and printable clears.

To keep a high degree of optical transparency, pressure on the finished graphic should be avoided. It is preferred to have graphics, printed with UV curable inks, laminated from roll to sheet. Stacking of too many graphics on top of each other can create pressure marks. In case of laminating from roll-to-roll a low take-up tension should be used.

Notice! By applying a laminate or clear coat, the transparency of the graphics can be impacted.

> [Product Bulletin Graphic Protection Options](#) <

Shipping finished graphics Flat, or rolled film side out on 130 mm (5 inch) or larger core. These methods help to prevent the liner from wrinkling or application tape, if used, from popping off.

Finished graphics are pressure sensitive. The optical transparency can be impacted by pressure marks in the adhesive.

Converting Information Inkjet Printing

Adequately Dry Graphics

A too high total physical ink amount on the film results in media characteristic changes, inadequate drying, overlamine lifting, and/or poor graphic performance. The maximum recommended total ink coverage for this film is 270%.

Inadequate drying can result in graphic failure including curling, increased shrinkage and adhesion failure, which are not covered under warranty. Build enough time into your process to ensure adequate drying of the graphic.

Poorly dried film becomes soft and stretchy, and the adhesive becomes too aggressive. 3M recommends at least a minimum drying time of 24 hrs before further processing. Dry the graphic unrolled or at least as a loose wound roll standing upright.

Converting Information

Formulations and processing conditions can affect ink durability. Refer to the 3M Product and Instruction Bulletins for your ink for limitations and proper usage. Graphic protection can improve the appearance, performance and durability of your graphic.

Screen Printing

Abrasion and Loss of Gloss

A clear coat also prevents chalking on unprinted films. Use equipment designed to handle high viscosity materials and make sure the coating is evenly applied to the specifications given in the clear's Instruction Bulletin.

Abrasion damage and loss of gloss are not covered by any 3M warranty. This is considered normal wear and tear.

Application

See product bulletin ATR 'application tape recommendations' for information about selection and use of suitable application tapes for this product, please.

[> Product Bulletin Application Tape Recommendations <](#)

Refer to Instruction Bulletin 5.1 'select and prepare substrates for graphic application', for general application information.

[> Instruction Bulletin 5.1 'select and prepare substrates for graphic application' <](#)

Refer to Instruction Bulletin 'Wet application instructions for 3M™ Scotchcal™ Clear View Graphic Film 8150', for information on how to apply this product.

[> Instruction Bulletin 'Wet application instructions for 3M™ Scotchcal™ Clear View Graphic Film 8150' <](#)

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).

Refer to Instruction Bulletin 6.5 'storage, handling, maintenance and removal of films and sheetings', for general maintenance and cleaning information.

[>Instruction Bulletin 6.5 'Storage, Handling, Maintenance and Removal of Films and Sheetings'<](#)

Important Safety Remark

The application of colored or printed film onto glass can lead to glass breakage through thermal expansion of the glass. The local conditions must be examined for the danger of glass break by uneven heat absorption through sun exposure. Type of glass (insulation glass, float glass, LSG, toughened safety glass, semi-tempered glass, etc.), glass dimension, joint condition, flexibility of the sealant, quality of the edge finishing, geographical orientation and partial shadow during sun exposure are the determining factors.

Light color designs and application on the outside of the window are to be preferred. A free non-applied framework of 4 mm around the entire window front can help to dissipate the absorbed warmth. According to common knowledge a thermal crack can occur at temperature differences of approx. 130°C (toughened safety glass), approx. 40°C (float glass) or approx. 110°C (semi-tempered glass).

Coldest place is usually under the framework in the embedded joined window part, the warmest place is typically on the darkest place in the format. Because of the many above mentioned factors, glass breakage cannot be fully predicted, therefore 3M does not accept liability for glass breakage when using this film for window graphics.

Remarks

This bulletin provides technical information only.

Important notice

All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.

Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.

Additional Information

Visit the web site of your local subsidiary at www.3Mgraphics.com for getting:

- more details about 3M™ MCS™ Warranty and 3M™ Performance Guarantee
- additional instruction bulletins
- a complete product overview about materials 3M is offering



Commercial Solutions

Hermeslaan 7

1831 Diegem, Belgium

Responsible for this technical bulletin

3M Deutschland GmbH | Safety & Graphics Laboratory

Carl-Schurz-Str. 1 | 41453 Neuss, Germany

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