



Scotchcal™ Clear View Graphic Film

8150

Product Bulletin

Product Description

Scotchcal™ Clear View Graphic Film is a perfectly transparent cast PVC printing film. Any design can be perfectly reproduced using digital or screen printing, while unprinted areas allow a perfectly 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 shopfitters 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 SC8150 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	solvent acrylic; pressure-sensitive
Adhesive appearance	clear
Liner	transparent synthetic
Adhesion	12 N/25 mm FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH

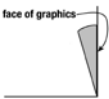
Application method	wet only!
Applied shrinkage	< 0.1 mm FTM 14
Application temperature	+10°C minimum (air and substrate)
Notice!	For making perfect - scratch free applications refer to Instruction Bulletin 8150, please.

Service temperature	-50°C to +90°C
Surface type	flat to simple curved
Substrate type	glass, PMMA, PC*, PETG*, ABS PC*, PETG*: 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.

Storage Shelf life 2 years from the date on the original box
Up to 2 years unprocessed, or processed within 1 year and apply within 1 year of processing

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™	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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 3M Commercial Graphics Division 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 your graphic. Any 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.
Notice!	Overlamination or clear coating will reduce the transparency of the product.
	> 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.

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 Screen Printing

Abrasion and
Loss of Gloss

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

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' <](#)

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' <](#)

Remarks

Important notice

This bulletin provides technical information only.

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

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