



Diamond Grade™ Conspicuity Marking

Series 983

Product Bulletin

Product Description

These durable, microprismatic, retroreflective sheetings are designed to mark the side and rear perimeter of trucks and trailers according to UN/ECE104 for enhanced visibility and detection.

Product Line	Screen printing	983-10	white, retro-reflective, semi-matte, permanent adhesive (clear).
		983-71	yellow, retro-reflective, semi-matte, permanent adhesive (clear).
		983-72	red, retro-reflective, semi-matte, permanent adhesive (clear).

Product Characteristics

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

Physical & Application

Material	PMMA
Surface finish	semi-matte
Thickness (film)	360 µm to 400 µm (0.36 mm to 0.40 mm)
Adhesive type	pressure-sensitive
Adhesive appearance	clear
Liner	Polypropylen
Adhesion	15 N/25 mm
Application method	dry only!
Applied shrinkage	< 1%
Application temperature	+15 °C to +38 °C minimum (air and substrate)
Service temperature	-34 °C to +94 °C
Surface type	flat
Substrate type	3M approved canvas
Graphic removal	Hard to remove from supported substrates.
Notice!	Heat helps take off the top layer, but removing the adhesive requires a solvent-based remover.
Storage	Shelf life
	1 year after date of receipt from 3M

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
white	3 years	3 years	3 years
colors	3 years	3 years	3 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
 - flexible substrates incl. Panaflex™ and Panagraphics™.
 - other than flat surfaces.
 - painted or unpainted wallboards, gypsum boards and wallpapers.
 - substrates other than recommended.
 - surfaces that are not clean and smooth.
 - surfaces with poor paint to substrate adhesion.
 - non-OEM painted substrates on most vehicles.
- Graphic removal from
 - signs or existing graphics that must remain intact.
 - substrates that require clean removal without risk of damage.
 - vehicles do not have the original OEM painted applied.
- Graphics subjected to
 - regular exposure to gasoline vapors or spills at gas pumps, automobile fuel-tank ports.
- Important Notice
 - 3M Commercial Graphics Division products are not tested against automotive manufacturer specifications!
 - Wet application method is not recommended for this film.
 - Non vertical applications are neither recommended nor warranted.
 - Be aware that graphics installed outdoors can develop mold or mildew on top of or behind the graphic, which may be a health concern for some individuals, especially during graphic removal.
 - To avoid color variations all pieces of applied film of one colored area should be processed out of one lot of material.

Graphics Manufacturing

Shipping sheetings

Flat. These methods help to prevent the liner from wrinkling or application tape, if used, from popping off.

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.

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

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.



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