



# 3M™ Scotchgard™ Graphic and Surface Protection Film 8993

## Description

### Advantages

- Superior resistance against harsh solvents
- Dimensionally stable
- Very high transparency
- Excellent fastness to light
- Exterior durability of 6 years

### Applications and End Uses

This polyester film is tough and dimensionally stable, intended for the protection of public transport vehicles, high quality advertising and signs for both interior and exterior applications on flat or simple curved surfaces. It is intended for use on flat surfaces without rivets.

- Exterior and interior protection of buses, trams, metros and suburban trains
- Protection of graphics and signs

### Limitations of End Uses

Any other application is NOT warranted by 3M or covered by the worldwide 3M MCS warranty unless 3M gives its prior written approval for the application.

Specifically, 3M cannot warrant this product for the following applications:

- Application on corrugated and irregular surfaces with and without rivets.
- Application onto Non-3M films
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division for alternatives.

### Compatible Products

- 3M™ Graphic Marking Films

(for details and compatibility please refer to the corresponding Product Bulletin)

- Selected 3M application tapes

### Product Line

Scotchgard 8993 is available in the following dimensions.

- 1.219m x 50m
- 1.371m x 50m
- 1.524m x 50m

Please contact 3M sales office for stock available and lead times.

## Characteristics

Property	Description
Colour	Transparent
Film	0.025 mm clear film
Thickness (film plus adhesive)	0.040 to 0.055 mm
Adhesive type	Permanent, pressure sensitive
Adhesive color	Clear
Liner	120g/m <sup>2</sup> kraft paper
Application surface	Flat
Application substrates	Glass, metal, painted substrates, rigid plastic
Application temperature range	10° to 38°C

## Effective Performance Life & Warranty

Only a Scotchprint® Graphics Authorised Manufacturer or 3M™ MCS™ Qualified Manufacturer can produce 3M™ MCS™ Warranted Graphics. The warranty period is based on field experience and exposure tests. When the graphics are processed and used according to the 3M recommendations, they should have the performance life shown in the table in the next column. The actual performance depends on the:

- Use with compatible products
- Correct combination of films and inks
- Selection and preparation of the substrates
- Application methods employed
- Cleaning and maintenance methods employed
- Exposure conditions in service

### Warranted Durability

Product	Exterior Zone 1	Interior
8993	6 years	8 years

Note: Maximum durability will not exceed that of the film or substrate on which this is laminated.

The warranty applies to films that are exposed at a vertical angle (defined as 90° +/- 10°). A significant decrease in durability may be experienced if films are exposed other than vertical. Such non-vertical applications must be on a test and approval basis to determine acceptability. 3M does not warrant non-vertical exposures.

Commercial Graphics Division products are not tested against automotive manufacturer's specifications and are, therefore, not warranted for use in fabricating graphics for automotive OEM's.

#### Zone 1: Northern and Central Europe

Austria, Baltic States, Belgium, Bosnia, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greenland, Hungary, Iceland, Ireland, Italy (North of Rome), Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland, UK

#### Zone 2: Mediterranean Europe

Albania, Bulgaria, Corsica, Crete, Greece, Italy (South of Rome), Macedonia, Malta, Portugal, Russia, Sardinia, Spain, Turkey

#### Zone 3: Middle East and Africa

Afghanistan, Bahrain, Cyprus, Dubai, Israel, Kuwait, Iran, Iraq, Jordan, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, Syria, UAE, Yemen, Algeria, Angola, Benin, Botswana, Burkina, Burundi, Cameroon, CAR, Chad, Congo, Djibouti, Egypt, Eritrea, Gabon, Ghana, Guinea, Ivory Coast, Libya, Liberia, Madagascar, Mali, Mauritania, Morocco, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somali Republic, South Africa, Sudan, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe

## Fabrication

This bulletin does not contain detailed printing, processing or application procedures for the subject products. The appropriate Instruction Bulletin(s) may be obtained by contacting your 3M sales representative or 3M Technical Service.

Printed graphics must be dry prior to lamination.

### Roll Lamination

Scotchgard 8993 can be roll laminated onto other films or substrates using the standard laminator set-up.

## Premasking / Prespacing

Conditions	3M Brand Application Tapes
General Premasking	SCPM-19
General Prespacing	SCPS-100

## Edge Sealing

Graphics on rail rolling stock protected with Scotchgard 8993 must be edge sealed. Refer to Instruction Bulletin 5.1.1

## Shelf Life, Shipping and Storage

The shelf life of the film is 2 years and should be applied within 2 years of the receipt of film if unprocessed. Processed film should be applied within 1 year of processing and within 2 years of receipt of the film.

Film, sheeting and markings must be stored in a clean area, free from excessive moisture and direct sunlight, with ambient temperatures below 38°C.

## Chemical and Physical Properties

Values given are typical and are not for use in specifications. If not specified otherwise, the data below is valid for the three product versions.

### Physical Properties

Property	Metric Units
Thickness (ISO 4593)	0.025mm
Tensile Strength (ISO 1184-1983)	55 N/25mm min at 23°C
Dimensional Stability (FTM 14)	no detectable shrinkage
Temperature Range	-54°C to +93°C

## Related 3M Literature

Listed below is related 3M Technical Literature which may be of interest:

Subject	Bulletin No.
<b>Instruction Bulletins</b>	
Design of Markings	2.1
Scoring and Cutting	4.1
Premasking and Prespacing	4.3
Surface Preparation	5.1
Application on Rail Vehicles	5.1.1
Application	5.5
Storage, Maintenance and Removal	6.5

## Health & Safety

Refer to the package label and the Material Safety Data Sheet for health, safety, and handling information on the products referenced in this bulletin. For 3M products, if necessary, you may contact our Toxicology/Product Responsibility Department on 01344 858000.

## Important Notice to Purchaser

The 3M products described in this publication are covered by a 3M warranty and limitation of liability.

3M's warranty provides that if 3M finds that goods are defective in material or workmanship they will be replaced or the price refunded at 3M's option but note that 3M does not accept liability for other direct losses (except for personal injury or death) or consequential losses relating to defective products or from information supplied by 3M.

Purchasers and users of 3M products, and not 3M supplying companies, are always solely responsible for deciding on the suitability of the 3M product for their required or intended use.

## Technical Assistance

For help on specific questions relating to 3M Commercial Graphics Division Products, contact your local Technical Service Representative.

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[www.3m.com/uk/graphicsolutions](http://www.3m.com/uk/graphicsolutions)

## Sales Assistance

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*The use of trademark signs and brand names in this bulletin is based upon US standards. These standards may vary from country to country outside the USA*

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