



Scotchgard™ Multi-Layer Protective Film

1004MS

Technical Data

April 2016

Product Description 3M™ Scotchgard™ Multi-Layer Protective Film 1004MS is an optically transparent, pressure-sensitive polyester film tape designed to protect surfaces from intentional and unintentional damage caused by scratching, etching, abrasion and graffiti. A damaged film layer can be quickly and easily removed, exposing a fresh protective sheet.

Product Construction	Backing	Adhesive	Sizes
	Polyester	Acrylic	Sheets and Custom Sizes

Typical Physical Properties **Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.**

	1004MS	ASTM Test Method
Number of Layers:	4	
Film Thickness:	19.5 mils (0.5 mm)	D-3652
Base Layer Adhesion to Glass:	29 oz./in. (32 N/100 mm)	D-3330
Base Layer Adhesion to Polycarbonate:	28 oz./in. (31 N/100 mm)	D-3330
Visible Light Transmission:	88%	D-1003
Haze:	3%	D-1003
Clarity:	96%	D-1003

- Features**
- Multi-layer construction reduces total application and removal costs versus single layer protection.
 - Thick polyester film construction prevents typical scratches from affecting layers below.
 - Film protects glass from chemical etching agents such as Bath Etch™ or Armour Etch™.
 - Film on glass and polycarbonate meets ASTM E162, ASTM E662, FMVSS-302 and Bombardier SMP 800-C requirements.
 - Durable top-coat layer prevents light scratches caused by installation, wiping, cleaning or abrasion
 - Resists the effects of outgassing when used on polycarbonate and acrylic.
 - Optimized inter-layer adhesive provides firm, adequate adhesion yet fast and easy removal.
 - High clarity construction provides glass-like appearance.

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Applications

3M™ Scotchgard™ Multi-Layer Protective Film 1004MS protects glass, polycarbonate, acrylic and other surfaces from damage due to scratching, abrasion or chemical etching. Used for protecting smooth, flat surfaces such as public transportation windows and doors, modesty panels, transit kiosks, shelters, displays, mirrors and elevators.



Application Techniques

- For best results, surface must be clean and free of dirt, debris and oils and should be applied when the surface temperature exceeds 50°F (10°C).
- Use of an application solution and 3M Heavy Duty Squeegee is suggested for easy positioning and squeegee application (3M Part No. 70-0710-4672-9).
- Removal of film layers immediately after wet application is not recommended.
- Use of film removal tool is recommended for easy peel-back of target layer.
- For detailed application instructions and tips, see 3M Technical Bulletin (70-0709-5334-7).

Application Information

- Some acrylic and polycarbonate substrates have low surface energy coatings leading to adhesion issues. Test before use.
- Not approved as glazing material for windshields requiring conformance to Federal Code 49 CFR 571.205. This standard applies to passenger cars, multi-purpose passenger vehicles, trucks, buses, motorcycles, slide-in campers and pick-up covers.
- May be used outdoors for short term use (typically <1 year) with minimal change in haze, clarity, light transmission and minimal adhesive residue left on most surfaces. Some exposure conditions (e.g. direct sun facing, higher temperatures) may shorten performance.
- Blocks more than 98% of UV light that can degrade plastics and fabrics.
- **Note:** Removal of film layer generates static charge.

Storage

Store flat under normal conditions of 60° to 80°F (16° to 27°C) and 40 to 60% R.H. in the original carton.

Shelf Life

To obtain best performance, use this product within 24 months from date of manufacture.

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Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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ISO 9001

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.



Industrial Adhesives and Tapes Division

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