

**Product Description**

3M™ Scotchshield™ Ultra Prestige S70 is a combined solar and safety window film consisting of a multi-layered, tear-resistant safety film combined with high-performance, multilayered optical film.

3M™ Scotchshield™ Ultra Prestige S70 is a metal-free product.

**Applications**

3M™ Scotchshield™ Ultra Solar Safety Window Films are intended for interior application on flat glass substrates.

**Physical Properties**

The values displayed are the results of illustrative lab test measurements made according to the indicated external norm and shall not be considered as a commitment from 3M.

Characteristics	Value
Film Thickness	203 µm (8mils)
Total Film Thickness (Film + Adhesive)	250 µm (9.9 mils)
Film Construction	Multi-layered PET/PMMA
Tensile Strength MD/TD (ASTM D882)	180 MPa (26,600psi) 172 MPa (25,000 psi)
Break Strength MD/TD (ASTM D882)	37 N/mm (205 lb/in) MD 36N/mm (200 lb/in) TD
Elongation at Break MD/TD (ASTM D882)	110% / 135%
Yield Strength (ASTM D882)	103 MPa (15,000 psi - MD)
Energy to Tear MD/TD (ASTM 1004 - Graves Tear)	1.26 J +/- 0.18 (1,150 lbs%) MD 1.25 J +/- 0.32 (1,150 lbs%) TD
Abrasion Resistance (ASTM D1044)	< 5% delta haze
Flammability	
Flammability EN 13501	Pending, testing in progress
Flammability (ASTM E84)	Class A

Typical Performance Properties according to EN 410										
Glass Type	Film Type	Visible Light			Total Solar Energy Rejected	G Value (SHGC)	LSG (Light to solar gain)*	UV Block	Heat Gain Reduction	Glare Reduction
		Reflected (interior)	Reflected (exterior)	Transmission						
Single Pane		%	%	%	%			%	%	%
Clear	No Film	8	8	88	18	0.82	1.1	43	N/A	N/A
	Ultra PR S70	8	9	70	48	0.52	1.3	99	37	22
Tinted	No Film	6	6	53	37	0.63	0.8	N/A	N/A	N/A
	Ultra PR S70	7	6	42	48	0.45	0.9	99	29	22
Double Pane										
Clear	No Film	15	15	79	30	0.70	1.1	N/A	N/A	N/A
	Ultra PR S70	13	15	62	43	0.57	1.1	99	19	22
Tinted	No Film	13	8	47	49	0.51	0.9	N/A	N/A	N/A
	Ultra PR S70	11	9	37	57	0.43	0.9	99	17	22

\*Transmission/G

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**Performance Testing**

Method	Glass Substrate	Film Attachment**	Blast Load	GSA Performance Condition and/or ASTM Hazard rating
<b>Blast Mitigation</b>				
GSA TS01-2003 ASTM F1642	6 mm (1/4") annealed	IPA	6 psi, 42 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"
GSA TS01-2003 ASTM F1642	25 mm (1") double pane annealed	IPA	9 psi, 60 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"

Method	Glass Substrate	Film Attachment**	Rating
<b>Safety Glazing</b>			
16 CFR 1201	6 mm (1/4") and 3 mm (1/8") annealed	N/A	Category 2, 400 ft-lbs
ANSI Z97.1			Class A (Unlimited), 400 ft-lbs
EN 12600	6 mm	N/A	1B1, applicable for both surfaces, glass and film side
EN 12600	4 mm	N/A	1B1, applicable for both surfaces, glass and film side
<b>Impact Resistance</b>			
ASTMs E1886/E1996	6 mm (1/4") tempered	IPA	Missile Level A
EN 356	4 mm/6 mm annealed	N/A	Pending, testing in progress
EN 356	5 mm tempered	N/A	Pending, testing in progress

\*\* IPA = 3M™ Impact Protection Attachment Sealant, all 4 sides unless noted. N/A = Not Applicable.

**Shelf Life and Storage (prior to application)**

The shelf life as defined below remains an indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as a warranty. Shelf life is 5 years from the manufacturing date. The material should be stored in its original packaging, laying in a horizontal orientation, away from direct sunlight. Heavy objects should not be placed on top of it to avoid damaging the product. Recommended storage conditions are +21°C and 40 – 50% relative humidity. Avoid extreme temperature ranges in storage.

## Application

These are indicative values for 3M™ Window Film products.

Recommended substrate	Glass (as described in EN 15755-1)
Recommended surface	Flat to simple curved
Application method	Suitable for wet application or dry semi-automatic lamination
Application temperature	From +8°C to +45°C
Application guidelines	Use a firm, narrow squeegee e.g. Blue Max 12.7 cm. Use both hands to apply consistent, firm pressure across the squeegee blade. Overlap 50% from the previous stroke. Remove as much water as possible in one pass.
Service temperature	From -40°C to +80°C
Edge sealing	N/A
Edge retention	IPA or similar is recommended for glass mitigation applications
Drying Time	Final adhesion is dependent on film thickness and prevailing drying conditions. Typical cure times for films > 200 µm < 300 µm = 100 days Please refer to local instructions for details.

## Maintenance and Cleaning

Use a cleaning agent designed for high-quality glass surfaces. The cleaning agent must be wet and non-abrasive with a pH value between 6 and 8 (neither strongly acidic nor strongly alkaline).

## Health and Safety

When handling any chemical products, read the manufacturer's container labels and the Safety Data Sheets (SDS) for important health, safety, and environmental information.

Follow the link to obtain SDS sheets for 3M products on [3M.com/SDS](http://3M.com/SDS).

**IMPORTANT!** When using any equipment, always follow the manufacturer's instructions for safe operation.

## Warranty

3M warrants that each 3M product will be free from defects in material and manufacture for the length of the product warranty. 3M MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## 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.

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