3M™ Scotchshield™ Security Window Film S2400

Technical Data Sheet
Revision A, April 2024

IMPORTANT: This Technical Data Sheet provides an overview of the specified product's performance. Prior to product selection, always refer to the current 3M Technical Specifications for more detailed product information and specifications. All technical data and information in this data sheet should be considered representative or typical only and should not be used for specification purposes.

Product Description

- Polyurethane construction, flexible film designed for enhanced tear resistance and glass fragment retention
- Polyurethane construction provides greater tear strength and elongation than polyethylene terephthalate (PET) resin film of similar thickness, allowing the film to absorb impact
- Optically clear
- For application only to interior glass surfaces of windows and doors
- Engineered to help hold broken glass in place
- Helps prevent flying glass shards from harming occupants and damaging property
- Blocks up to 99% of the sun's harmful UV rays, the largest cause of fading

Applications

- Helps prevent flying glass shards in the following applications:
  - Spontaneous Glass Breakage
  - Break and Entry Incidents
  - Seismic Events
  - Intentional and Accidental Explosions
  - Impact protection from wind-borne debris
- Helps delay intruders in break and entry incidents
- Helps protect against ultraviolet (UV) fading
- Helps meet many industry performance standards for glass fragment retention

Product must be installed with the 3M™ Impact Protection Attachment (IPA) Sealant for all windstorm, break & entry, and explosion mitigation applications and for all spontaneous glass breakage applications on single pane tempered glass. The product is not bulletproof and is not designed to stop intruders.

Product must be installed strictly in accordance with 3M Technical Specifications and 3M instruction guidelines.

Important Handling and Installation Instructions: This thick but flexible film has both an adhesive liner and a protective top sheet. Precut sheets should be handled carefully and shipped flat to avoid pop-off of the liner, which may result in a visible defect after installation. The protective top sheet can be left on as an aid to installation but must be removed prior to application of 3M™ Impact Protection Attachment (IPA) Sealant.

Product Properties

Film Properties	
Film Thickness (with adhesive)	25 mils (630µ) nominal
Film Construction	TPU
Tensile Properties (ASTM D882)	
Tensile Strength at 300% Elongation	1600 psi
Tensile Strength at Break	3200 psi
Break Strength	77 lbs/in
Elongation at Break	560%
Other Physical Properties	
180 Degree Peel Strength on Glass (ASTM D3330)	3.2 lbs/in

Graves Tear Area Under Curve (ASTM D1004, 12 in/min, initial grip separation 1.5 in)	24.6 lbf*in
Flammability (ASTM E84)	Class A
Solar Properties – *film applied to ¼" clear glass*	
Visible Light Transmitted	89%
UV Light Rejected	99%

Performance Testing

Method	Glass Substrate	Rating
Safety Glazing		
ANSI Z97.1	1/4" & 1/8" annealed	Class A (Unlimited), 400 ft-lbs and Class B (Unlimited), 150 ft-lbs

Method	Glass Substrate (24" x 24")	UL 972 results
Impact Resistance		
UL 972 Sect. 6.2 Ball Impact Test	1/4" annealed 1/4" tempered	Pass Pass
UL 972 Sect. 6.4 Thermal Conditioning Test and Impact Test for Indoor Use	1/4" annealed 1/4" tempered	Pass Pass
UL 972 Sect. 6.5 High Energy Impact Test	1/4" annealed 1/4" tempered	Pass Pass

Method	Glass Substrate	Film Attachment *	Blast Load	GSA Performance Condition and/or ASTM Hazard Rating
Blast Mitigation				
GSA TS01-2003 ASTM F1642	1/4" annealed	IPA	6 psi, 42 psi msec	GSA Rating of "2" ASTM F1642 "Minimal Hazard"
GSA TS01-2003 ASTM F1642	1/4" tempered	IPA	6 psi, 42 psi msec	GSA Rating of "2" ASTM F1642 "Minimal Hazard"

* IPA = 3M™ Impact Protection Attachment (IPA) Sealant, all 4 sides

Health & Safety

⚠ **WARNING**. To help reduce the risk of personal injury and/or property damage associated with glass breakage, when working on or near glass surfaces, always use appropriate personal protective equipment and follow the Technical Bulletin "3M™Window Film Glass Checklist" to identify the risk of glass breakage associated with the application of window film to glass surfaces.

⚠ **CAUTION**. When using any equipment, tools, or cleaning solutions in connection with the processing and application of this Product, always follow the manufacturer's container labels and/or instructions for safe operation.

Important Product Notices

IMPORTANT PRODUCT AND APPLICATION LIMITATIONS: Many factors can contribute to potential hazards and damages arising from wind, impact, seismic, explosion, or break and entry incidents, including the window film selected, type and thickness of glass, building construction, exterior pressure, proximity of impact occurrence, quality of window or door frames, intruder size and strength, and type of tools used to gain entry. Certain 3M™ Window Films require the use of 3M™ Impact Protection Attachment (IPA) Sealant on glass window and door frames for windstorm, break & entry, and explosion mitigation applications and for spontaneous glass breakage applications on single pane tempered glass. The sealant may also be recommended for certain other spontaneous glass breakage, safety glazing, and seismic applications. Always refer to the 3M Technical Data Sheets and 3M Technical Specifications to determine whether these combinations are required. **CAUTION: While 3M™ Window Films, when applied in accordance with 3M instructions, may help reduce the impact of flying glass shards under certain conditions and potentially delay intruders, these films do not prevent property damage, personal injury, or death. CAUTION: Window films are not bulletproof and not designed to stop intruders.** Always consult with security professionals and a 3M Authorized Window Film Dealer prior to selecting any window films to determine suitability for the intended application.

IMPORTANT STATE OF FLORIDA NOTICE: This product is not approved in the State of Florida for use as hurricane, windstorm, or impact protection from wind-borne debris from a hurricane or windstorm. In compliance with Florida Statute 553.842, this product may not be advertised, sold, offered, provided, distributed, or marketed in the State of Florida as hurricane, windstorm, or impact protection from wind-borne debris from a hurricane or windstorm.

Warranty Information

Technical Information: Technical information, guidance, and other statements provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license to any intellectual property rights is granted or implied with respect to this technical information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment, reviewing all applicable regulations and standards, and reviewing the product label and use instructions. Failure to properly evaluate, select, and use a 3M product in accordance with instructions or to meet all applicable safety regulations may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. Please refer to the Warranty Bulletin for 3M™ Window Films (Flat Glass Applications) and 3M™ Impact Protection Attachment (IPA) Sealant for complete details on warranty coverage, which can be obtained by contacting your 3M Authorized Window Film Dealer or your local 3M sales representative. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

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