

**IMPORTANT:** This Technical Bulletin provides instructions on how to demonstrate the differences in tear resistance between 3M™ Scotchshield™ Security Window Film S2400 and polyethylene terephthalate (PET) resin films of comparable thickness. Prior to product selection, always refer to the current 3M Technical Data Sheet and 3M Technical Specifications for more detailed product information and specifications. All technical data and information in this bulletin should be considered representative or typical only and should not be used for specification purposes.

## Background

This Tear Resistant Demo Kit for 3M™ Scotchshield™ Security Window Film S2400 contains samples of S2400 and a 0.56 mm (22 mil) polyethylene terephthalate (PET) resin film for purposes of demonstrating stretch and tear properties of S2400 compared to a PET-based films of similar thickness.

## Product Description

S2400 is an optically clear, polyurethane-based window film which, when applied to the interior window surface, will help hold broken glass together and reduce the ultraviolet light that normally would enter through the window. This easily applied, tear-resistant security window film is engineered for the following 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 and 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 instructions.

## Contents

One 15 cm x 20 cm (6"x 8") sheet with a 5 cm (2") slit of each of the following:

- 3M S2400, 0.6 mm (24 mil) polyurethane-based film with liner
- 0.56 mm (22 mil) PET-based film with liner (commercially available PET-based film; not a 3M product)

## BREAK AND ENTRY DEMONSTRATION PROCEDURE

Explain how, during break and entry incidents, window films can be punctured and flexed. The polyurethane construction of 3M S2400 provides greater tear strength and elongation than PET resin film (of similar thickness), allowing the S2400 film to better absorb impact. PET-based films have lower tear strength than polyurethane-based films.

1. Instruction for PET Sample: Explain how PET-based films can more easily tear – even this 0.56 mm (22 mil) thick sample.

First, remove the adhesive liner. Second, instruct the customer to try to tear open the small hole of the PET sample completely. With enough force, the tear will propagate to the edge of the PET film, tearing it into two pieces.

2. Instructions for S2400 Sample: Explain how the S2400 film is a more flexible material than PET film of similar thickness. This flexibility contributes to the stretch and absorption of energy during a break and entry event. The flexible construction of S2400 allows the film to stretch more to resist tearing. This latest development in window security films, when combined with 3M™ Impact Protection Attachment (IPA) Sealant, is designed for flexibility, impact absorption and fragment retention.

First, remove the adhesive liner. Second, instruct the customer to try to tear open the small hole of the S2400 sample. The customer should feel the higher stretch and higher tear strength of the S2400. The customer should find that the S2400 is much more difficult to tear through.

Please refer the customer to 3M Technical Data Sheet and 3M Technical Specifications for complete product information.

Please refer the customer 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.

## 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 windows and door frames for windstorm, break and 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 are 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.

**Warranty, Limited Remedy, and Disclaimer:** 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. If a 3M product does not conform to the warranties described in this Warranty Bulletin, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price. Except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

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