

## Product Features and Benefits

- Micro-layered film designed for tear resistance
- Optically clear
- Applies to interior glass surfaces
- Helps protect from broken glass hazards
- Helps extend the life of furnishings by significantly reducing harmful UV rays

## Applications

- Bomb Blast Mitigation
- Safety Glazing
- Helping to Deter Break & Entry
- Building Envelope Protection
- Spontaneous Glass Breakage
- Seismic Preparedness

## Film Properties (typical)

Film Thickness	8 mils
Film Construction	Micro-layered
<b>Tensile Properties (ASTM D882)</b>	
Tensile Strength	31,500 psi
Break Strength	253 lbs/in
Elongation at Break	131%
Yield Strength	15,000 psi
Elongation at Yield	8%
Modulus	520 kpsi
Graves Area Tear Resistance (ASTM D1004)	1,100 lbs% (MD) /1,050 lbs% (TD)
Puncture-Propagation-Tear Resistance (ASTM D2582)	9 lbf (MD) /11 lbf (TD)

Puncture Strength (ASTM D4830)	190 lbf
Abrasion Resistance (ASTM D1044)	2.3% Δ haze
Peel Strength (ASTM D3330)	9 lb/in
Flammability (ASTM E84)	Class A
<b>Solar Properties – film applied to ¼" clear glass</b>	
Visible Light Transmitted	87%
UV Light Rejected	99%

## 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	1/4" annealed	IPA	6 psi, 42 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"
GSA TS01-2003 ASTM F1642	1" double pane annealed	IPA	6 psi, 42 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"
GSA TS01-2003 ASTM F1642	1" double pane annealed	IPA	9 psi, 60 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"
GSA TS01-2003 ASTM F1642	1/4" tempered	IPA	6 psi, 42 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"
GSA TS01-2003 ASTM F1642	1" double pane tempered	IPA	9 psi, 60 psi msec	GSA Rating of "2" ASTM F1642 "No Hazard"
GSA TS01-2003 ASTM F1642	1" double pane tempered	IPA (2 sides)	6 psi, 42 psi msec	GSA Rating of "3a" ASTM F1642 "Minimal Hazard"
GSA TS01-2003	1/4" tempered	IPA (2 sides)	6 psi, 42 psi msec	GSA Rating of "3a"
GSA TS01-2003	1" double pane tempered	IPA	7.8 psi, 55 psi msec	GSA Rating of "2"
GSA TS01-2003	1/4" annealed	IPA	9.4 psi, 55 psi msec	GSA Rating of "3b"

Method	Glass Substrate	Film Attachment	Rating
<b>Safety Glazing</b>			
16 CFR 1201	1/4" & 1/8" annealed	--	Category 2, 400 ft-lbs
ANSI Z97.1			Class A (Unlimited), 400 ft-lbs
<b>Impact Resistance</b>			
ASTMs E1886 / E1996	1/4" tempered	IPA	Missile Level C +/- 75 psf

\* IPA = 3M™ Impact Protection Attachment Sealant, all 4 sides unless noted.

## Health and Safety

When handling any chemical products, read the manufacturers' container labels and the Safety Data Sheets (SDS) for important health, safety and environmental information. To obtain SDS sheets for 3M products go to [3M.com/SDS](https://www.3m.com/SDS), or by mail or in case of an emergency, call 1-888-364-3577 or 1-651-737-6501. When using any equipment, always follow the manufacturers' instructions for safe operation.

## Technical Information

Technical information and data, recommendations, and other statements provided by 3M are based on information, tests, or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed. Such technical information and data are intended for persons with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. The typical values shown should not be used for the purpose of specification limits. If you have questions about this Product, contact the Customer Service Department at 1-800-852-9722.

## Product 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. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

## 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.

### Limited Remedy

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.

### No Extension of Warranty

In the case of an approved warranty claim, the replacement Product will carry only the remaining term of the original warranty period.

### Limitation of Liability

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.

#### IMPORTANT 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.

#### Commercial Solutions Division

3M Center, Building 220-12E-04 St. Paul, MN 55144

[3M.com/windowfilm](https://www.3m.com/windowfilm)

© 3M 2021. All rights reserved.

3M is a trademark of 3M. Used under license in Canada.

All other trademarks are property of their respective owners. Revision B, May 2021. Please recycle.

