

IMPORTANT: This Technical Data Sheet provides an overview of product performance. Prior to product selection you should refer to the current 3M Technical Specifications for more detailed product information and specifications.

Product Features and Benefits

- Combination safety / solar control window film
- Micro-layered film designed for tear resistance
- Lightly tinted film with heat rejection properties
- Helps protect from broken glass hazards
- Increase comfort and help reduce air conditioning costs
- Helps extend the life of furnishings by significantly reducing harmful UV rays

Applications

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

Film Properties (typical)

Film Thickness	8 mils nominal
Film Construction	Micro-layered Laminated
Tensile Properties (ASTM D882)	
Tensile Strength	25,600 psi (MD) /25,000psi (TD)
Break Strength	205 lbs/in (MD) /200 lbs/in (TD)
Elongation at Break	110% (MD) /135% (TD)
Yield Strength	15,000 psi (MD)
Elongation at Yield	7%
Modulus	550 kpsi
Abrasion Resistance (ASTM D1044)	<5% Δ Haze
Peel Strength (ASTM D3330)	5.3 lb/in
Flammability (ASTM E84)	Class A
Graves Area Tear Resistance (ASTM D1004)	1,150 lbs%
Puncture-Propagation-Tear (ASTM D2582)	12 lbf
Puncture Strength (ASTM D4830)	193 lbf

Solar Properties – film applied to 1/4" glass

	1/4" Clear	1/4" Tint	Dual Clear	Dual Tint
VLT	49%	30%	44%	26%
VLR-Int	7%	6%	9%	8%
VLR-Ext	8%	6%	15%	8%
SHGC	0.44	0.40	0.53	0.40
TSER	56%	60%	47%	60%
UV Block	99.9%	99.9%	99.9%	99.9%
Glare ↓	44%	53%	37%	49%
U-Value	1.00	1.00	0.48	0.48
Solar Heat ↓	46%	38%	25%	22%

Performance Testing

Method	Glass Substrate *	Film Attachment **	Rating	
Safety Glazing				
16 CFR 1201	1/8" and 1/4" annealed	--	Category 2, 400 ft-lbs and Category 1, 150 ft-lbs	
ANSI Z97.1			Class A (Unlimited), 400 ft-lbs and Class B (Unlimited), 150 ft-lbs	
Impact Resistance				
ASTMs E1886 / E1996	1/4" tempered	IPA	Missile Level "A"	
Blast Mitigation				
GSA TS01-2003 / ASTM F1642	1/4" tempered	IPA	Blast Load 6 psi, 42 psi*msec	Rating GSA Level 2 / ASTM "No Hazard"
	1" double pane (tempered)	IPA	9 psi, 60 psi*msec	GSA Level 2 / ASTM "No Hazard"

* Based on dry lamination of film to single pane glass and wet lamination of film to double pane insulated glass units.

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

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise 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 under any 3M or third-party intellectual property rights is granted or implied with this 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. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED 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.

Limitation of Liability: Except for the limited remedy stated above, and 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.

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.

The information provided in this report is believed to be reliable; however, due to the wide variety of intervening factors, 3M does not warrant that the results will necessarily be obtained. All details concerning product specifications and terms of sale are available from 3M

Commercial Solutions Division

3M Center, Building 220-12E-04 St. Paul, MN 55144
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 C, October 2021. Please recycle.

