

## 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

## Performance Testing

Method	Glass Substrate	Film Attachment	Rating	
<b>Safety Glazing</b>				
16 CFR 1201	1/4" 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	
<b>Blast Mitigation</b>				
			Blast Load	Rating
GSA TS01-2003 /	1/4" tempered	IPA	6 psi, 42 psi*msec	GSA Level 2 / ASTM "No Hazard"
ASTM F1642	1" double pane (annealed)	IPA	8 psi, 60 psi*msec	GSA Level 2 / ASTM "No Hazard"

\*Glazing systems vary. Contact 3M for more information.

## Film Properties (nominal)

Film Thickness	8 mils
Film Construction	Micro-layered Laminated
Tensile Strength	25,000 psi (MD) /26,000psi (TD)
Break Strength	210 lbs/in (MD) /220 lbs/in (TD)
Elongation at Break	111% (MD) /102% (TD)
Yield Strength	16,000 psi (MD)
Elongation at Yield	8%
Modulus	600 kpsi
Abrasion Resistance (ASTM D1044)	3% Δ Haze
Peel Strength (ASTM D3330)	4.5 lb/in
Flammability (ASTM E84)	Class A
Graves Area Tear Resistance (ASTM D1004)	1,100 lbs%
Puncture-Propagation-Tear (ASTM D2582)	10 lbf
Puncture Strength (ASTM D4830)	185 lbf

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

### 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



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