

Product Features and Benefits

- Combination safety/ solar control window film
- Help protect from broken glass hazards
- Increase privacy, reduce glare and eye discomfort
- Increase comfort and reduce air conditioning costs
- Helps extend the life of furnishings by significantly reducing harmful UV rays

Applications

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

Performance Testing

Method	Glass Substrate	Film Attachment	Rating	
Safety Glazing				
16 CFR 1201	¼" annealed	--	Category 2, 400 ft-lbs	
ANSI Z97.1			Class A (Unlimited), 400 ft-lbs	
Impact Resistance				
ASTMs E1886 / E1996	¼" tempered	IPA	Missile Level C, +/- 60 psf	
Blast Mitigation			Blast Load	Rating
GSA TS01-2003 / ASTM F1642	¼" annealed	IPP	6 psi, 42 psi*msec	GSA Level 2 / ASTM "No Hazard"
	¼" tempered	IPA	4 psi, 28 psi*msec	GSA Level 2 / ASTM "No Hazard"
	1" double pane (annealed)	IPA	4 psi, 28 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	Laminated conventional PET
Tensile Properties (ASTM D882)	
Tensile Strength	23,000 psi (MD) / 33,000 psi
Break Strength	170 lb/in (MD) / 280 lb/in (TD)
Elongation at Break	100% (MD) / 80% (TD)
Yield Strength	>12,000 psi (MD)
Elongation at Yield	>3%
Modulus	580 kpsi (MD) / 615 kpsi (TD)
Abrasion Resistance (ASTM D1044)	+3% Δ Haze
Peel Strength	4.5 lb/in
Flammability (ASTM E84)	Class A

Solar Properties – film applied to ¼" glass				
	¼" Clear	¼" Tint	Dual Clear	Dual Tint
VLT	38%	22%	34%	20%
VLR-Int	13%	12%	14%	13%
VLR-Ext	21%	10%	25%	12%
SHGC	0.45	0.40	0.51	0.39
TSER	55%	60%	49%	61%
UV Block	99%	99%	99%	99%
Glare ↓	58%	65%	52%	61%
U-Value	1.00	1.03	0.48	0.47
Solar Heat ↓	45%	36%	27%	23%

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Commercial Solutions Division

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