

3M™ Safety & Security Window Film

Safety Neutral S35

Technical Data

Product Features & 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 Mitigation
- 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 / Impact Resistance | | | | |
| 16 CFR 1201 | 1/4" annealed | -- | Category 2, 400 ft-lbs | |
| ANSI Z97.1 | | | Class A (Unlimited), 400 ft-lbs | |
| Impact and Pressure Cycling | | | | |
| ASTMs E1886 / E1996 | 1/4" tempered | IPA | Missile Level C, +/- 60 psf | |
| Blast Mitigation | | | Blast Load | Rating |
| GSA TS01-2003 / ASTM F1642 | 1/4" annealed | IPP | 6 psi, 42 psi*msec | GSA Level 2 / ASTM "No Hazard" |
| | 1/4" 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, not for specification purposes)

| | |
|---------------------------------------|----------------------------|
| Film Thickness | 8 mils |
| Film Construction | Laminated conventional PET |
| Tensile Properties (ASTM D882) | |
| Tensile Strength | 28,000 psi |
| Break Strength | 225 lbs/in |
| Elongation at Break | 90% |
| Yield Strength | 22,000 psi |
| Elongation at Yield | 80% |
| Modulus | 600 kpsi |
| Abrasion Resistance (ASTM D1044) | +3% Δ Haze |
| Peel Strength | 4.5 lb/in |
| Flammability (ASTM E84) | Class A |

| Solar Properties – film applied to 1/4" glass | | | | |
|---|------------|-----------|------------|-----------|
| | 1/4" Clear | 1/4" Tint | Dual Clear | Dual Tint |
| VLT | 39% | 23% | 35% | 21% |
| VLR-Int | 13% | 8% | 14% | 14% |
| VLR-Ext | 23% | 22% | 27% | 13% |
| SHGC | 0.43 | 0.36 | 0.49 | 0.38 |
| TSER | 57% | 64% | 51% | 62% |
| UV Block | 99% | 99% | 99% | 99% |
| Glare ↓ | 56% | 56% | 55% | 56% |
| U-Value | 1.02 | 1.02 | 0.47 | 0.47 |
| Solar Heat ↓ | 47% | 42% | 30% | 25% |

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.