

**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                          |                                |
|----------------------------|---------------------------|-----------------|---------------------------------|--------------------------------|
| <b>Safety Glazing</b>      |                           |                 |                                 |                                |
| 16 CFR 1201                | ¼" annealed               | --              | Category 2, 400 ft-lbs          |                                |
| ANSI Z97.1                 |                           |                 | Class A (Unlimited), 400 ft-lbs |                                |
| <b>Impact Resistance</b>   |                           |                 |                                 |                                |
| ASTMs E1886 / E1996        | ¼" tempered               | IPA             | Missile Level C, +/- 60 psf     |                                |
| <b>Blast Mitigation</b>    |                           |                 |                                 |                                |
| 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      |
| <b>Tensile Properties (ASTM D882)</b> |                                 |
| 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 |
| <b>VLT</b>                                  | 38%      | 22%     | 34%        | 20%       |
| <b>VLR-Int</b>                              | 13%      | 12%     | 14%        | 13%       |
| <b>VLR-Ext</b>                              | 21%      | 10%     | 25%        | 12%       |
| <b>SHGC</b>                                 | 0.45     | 0.40    | 0.51       | 0.39      |
| <b>TSER</b>                                 | 55%      | 60%     | 49%        | 61%       |
| <b>UV Block</b>                             | 99%      | 99%     | 99%        | 99%       |
| <b>Glare ↓</b>                              | 58%      | 65%     | 52%        | 61%       |
| <b>U-Value</b>                              | 1.00     | 1.03    | 0.48       | 0.47      |
| <b>Solar Heat ↓</b>                         | 45%      | 36%     | 27%        | 23%       |

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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.

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