**NEW**

**Ultra-Clear Solar Film**
for Laminated Glass

**Solar heat reduction with minimal effect on visible light**

3M™ Ultra-Clear Solar Film maintains high visible light transmission while blocking Infrared heat in laminated glass. This nonmetallic film is neutral in color and easily processed.

- Reduces solar radiation by up to 34% with minimal reduction of visible light
- Multilayer film selectively blocks infrared light, thus reducing heat
- Neutral in color, low reflectivity, low absorption
- No cutback or edge deletion required
- Compatible with other glass technologies (e.g. coatings, tinted glass)
- Corrosion free, nonmetallic technology
- No interference with radio frequencies
- Ability to bend the glass
- Compatible with PVB, EVA, or SentryGlas® Interlayer

**Reflection Versus Wavelength: Film Only**

0° Incidence
Reflects 25-27% of solar radiation

60° Incidence
Reflects 32-34% of solar radiation
Solar Performance of Low Iron Laminated Glass: At 0° From Nominal
6.3 mm low iron glass/0.38 mm PVB/UCSF/0.38 mm PVB/6.3 mm low iron glass

<table>
<thead>
<tr>
<th>Reflection (Visible)</th>
<th>Transmission (Visible)</th>
<th>Transmitted Energy</th>
<th>Reflected Energy</th>
<th>Absorbed Energy</th>
<th>TSER</th>
<th>SHGC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Iron Glass Laminates</td>
<td>8.1%</td>
<td>89.0%</td>
<td>82.7%</td>
<td>7.4%</td>
<td>9.8%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Low Iron Glass Laminates With 3M Film</td>
<td>9.1%</td>
<td>87.6%</td>
<td>67.4%</td>
<td>22.3%</td>
<td>10.3%</td>
<td>29.9%</td>
</tr>
</tbody>
</table>

Improvement in SHGC = 18%

Solar Performance of Low Iron Laminated Glass: At 60° From Nominal
6.3 mm low iron glass/0.38 mm PVB/UCSF/0.38 mm PVB/6.3 mm low iron glass

<table>
<thead>
<tr>
<th>Reflection (Visible)</th>
<th>Transmission (Visible)</th>
<th>Transmitted (Energy)</th>
<th>Reflected (Energy)</th>
<th>Absorbed (Energy)</th>
<th>TSER</th>
<th>SHGC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Iron Glass Laminates</td>
<td>15.4%</td>
<td>81.1%</td>
<td>74.2%</td>
<td>14.2%</td>
<td>11.1%</td>
<td>22.8%</td>
</tr>
<tr>
<td>Low Iron Glass Laminates With 3M Film</td>
<td>16.4%</td>
<td>79.6%</td>
<td>56.6%</td>
<td>31.3%</td>
<td>12.2%</td>
<td>40.3%</td>
</tr>
</tbody>
</table>

Improvement in SHGC = 23%

Transmission Data on Low Iron Laminated Glass