

Thermal Stress

- All glass absorbs energy when exposed to solar radiation
- Tinted glass absorbs more energy than clear glass
- Occurs when there is a temperature differential between center of glass and shaded edges
- The ability of the glass not to break is determined by its edge strength
- Always starts at the edge of the glass at least 2 inches from a corner
- The first 0.5"-1" of the crack will begin perpendicular to the edge of the glass

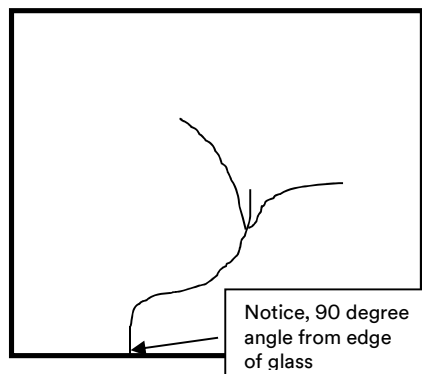
Glass Edge Strength

1. Glass is made to withstand from between 3000 to 5000 psi (210 to 350 kg/cm) of edge stress
2. When edge stress exceeds edge strength, breakage occurs
3. Edge strength depends on glass size, thickness, how it is cut, and treatment of edge by glazier
4. A straight clean edge is the strongest
5. Damaged edges can reduce edge strength by up to 50%

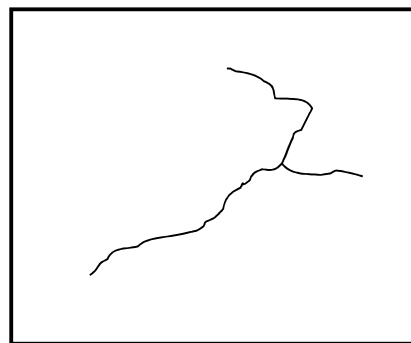
Will 3M Window Film Break My Glass?

State the Facts when Answering – see FAQs

1. Partial shading patterns from overhangs or extensions
2. Tight fitting drapes or blinds
3. Painted signs, decals or labels on glass
4. Heating and cooling vents directed at glass



Typical Thermal Stress Crack



Typical Impact Crack

Commercial Solutions Division

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