

CORE

Tempered Safety Glass **SSG® DuraGlas-T**

Jingumae 6, Japan



Annealed glass is a brittle material that breaks under low tensile stress. The exposure of annealed glass to wind load or extreme changes in temperature (about 40-50°C) can cause tensile stresses sufficient for annealed glass to break. In overcoming its fragility, a tempering process can be used to increase tensile strength of glass as a structural component.

Wind pressure, impact from foreign objects and thermal stresses on other applied loads must first overcome the layer of compression before breakage. In an occasion of breakage, SSG® DuraGlas-T breaks into small, granular and relatively harmless pieces. Hence, tempered glass is classified as a safety glass and reasonably non-injurious. Due to its toughness and safety glass feature, SSG® DuraGlas-T is frequently used in architectural façades and unframed interior

elements such as frameless sliding and pivoted doors.

THE TECHNOLOGY

SSG® DuraGlas-T employs the use of a thermal process to enhance the basic strength of annealed glass via a tempering furnace. Annealed glass is heated close to its softening point; it is then rapidly quenched by directing jets of cold air onto its surface. The surfaces are placed in compression during the quenching process, resulting in balanced induced stresses giving SSG® DuraGlas-T its added mechanical, thermal and impact resistant properties.

The tempering process does not alter visible light and solar radiant heat properties of the glass. Coated glass, such as SSG® Low Emissivity Glass which provides solar control with high visible light transmission can be tempered too. Spontaneous

PRODUCT FEATURES

MECHANICAL STRENGTH

SSG® DuraGlas-T is four to five times mechanically stronger than annealed glass of the same type and thickness. The compressive surface stresses close microscopic cracks and strengthens the glass.

SAFETY

In occasions of breakage, SSG® DuraGlas-T breaks into small and granular harmless pieces, unlike the sharp and jagged shards from broken annealed glass. This makes SSG® DuraGlas-T less injurious than annealed glass and is a classified safety glass.

THERMAL RESILIENCE

SSG® DuraGlas-T can withstand temperatures of up to 295°C. It can also endure temperature shocks of 150°C without breakage, making it approximately three times as resistant to rapid temperature changes as annealed glass.

Queens Condominium,
Singapore



breakages due to nickel sulphide formation can also be reduced via additional heat-soaking as featured in SSG® DuraGlas-Q.

SSG® DuraGlas-T is a certified safety glass under AS/NZS 2208 and SS 341 standards.

Note: In fully tempered and heat-strengthened glass, a strain pattern may be visible under certain light conditions. Such patterns are characteristic of thermally-processed glass and should not be mistaken as a defect.

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Sirim Rasa, Malaysia



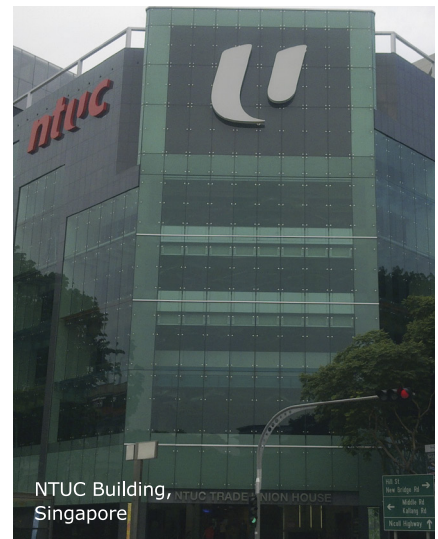
USES AND APPLICATIONS

- Floorings • Furniture and interior decorations • Partitions • Shop fronts
- Showcases • Sliding or swinging doors • Structural glass • Table tops
- Wall claddings • Window glass

APPLICABILITY

Monolithic tempered glass can be used in laminated or insulated glass make-ups to provide further mechanical strength and safety. SSG® DuraGlas-T is also available with ceramic fritting (SSG® DuraScreen), digital printing (SSG® DuraScreen-DigitalPrint) and Low Emissivity coatings (SSG® Low Emissivity Glass).

Available in Clear, Tinted, Low Iron, Low Emissivity, Reflective glass types etc.



NTUC Building,
Singapore

SPECIFICATIONS : Production Sizes

Glass Thickness (mm)	Minimum Size (W/mm x H/mm)	Maximum Size (W/mm x H/mm)
4 to 5	300 x 300	2,438 x 4,000
6 to 19		2,500 x 5,700
22		1,800 x 5,700
25		1,600 x 5,700