

# TOUGHENED GLASS

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Toughened glass is a Grade 'A' safety glass produced by furnacing annealed float glass at an approximate temperature of 620°C. After a period of time in the furnace chamber, the glass moves into a quenching chamber where it is rapidly cooled by high pressure air. This 'snap' cooling or quenching induces compressive stresses to the glass surface, whilst the centre remains in tension resulting in a product that is 4-5 times stronger than ordinary annealed float glass.

## FEATURES & BENEFITS

- > Grade 'A' safety glass per AS/NZS 2208:1996 Safety glazing materials in buildings;
- > 4 to 5 times the strength of ordinary annealed float glass;
- > more resistant to thermal breakage.

## APPLICATIONS

Residential and commercial low level glazing.

## RANGE

Available 4–12mm Grade 'A' Safety Glass and 15–19mm toughened glass.

## SIZE LIMITS\*

**Maximum Size** – 5050mm x2800mm

**Minimum Size** – 260mm measuring across the diagonal or 250mm x100mm for flat ground and polished edges

\*subject to glass thickness, types and design specifications.

## MANUFACTURING STANDARDS

**Architectural** – 4mm to 12mm Grade 'A' safety glass manufactured to AS/NZS 2208-1996 Safety glazing materials in buildings and 15mm to 19mm Toughened glass.

## DESIGN & GLAZING NOTES

In the event of breakage, toughened glass will fragment into small relatively harmless pieces. However, depending on the method of framing and means of breakage, the fragments may also clump and fall out into larger more potentially hazardous pieces. Because the glass can fall out of the frame or opening, this would then leave no barrier to prevent persons or objects falling through the opening. Toughened glass is used mostly in doors, side and low lites, frameless entries, low level balustrading and shower enclosures – refer to Australian Standards AS1288 for guidelines for use of toughened glass. For more details refer to Toughened Glass Design & Glazing Notes.

## HOW TO SPECIFY

- > specify National Glass Toughened Safety Glass;
- > select appropriate thickness and glass type;
- > all glass to be selected and installed in accordance but not exclusively to the following Australian Standards;

**AS 1288** Glass in buildings – Selection and installation

**AS/NZ 2208** Safety glazing materials in buildings

**AS 4666** Insulating glass units

**AS/NZS 4667** Quality requirements for cut-to-size and processed glass

**AS 1170** Wind & Structural Design Actions