

# Creating physical but not visual boundaries



## Core Products

Whenever the benefits of ordinary glass need to be combined with extra strength, safety or heat resistance, Viridian **VTough™** toughened glass offers a complete and proven solution, allowing designers and specifiers greater scope with glass for building.

### Product description

VTough toughened glass is a Grade A safety glass manufactured to AS/NZS2208 for use in buildings or AS/NZS2080 safety glass for land vehicles. It is manufactured by heating and then rapidly cooling float glass. As a result, opposing compressive and tensile stresses are set up in the glass, which gives toughened glass four to five times more strength than ordinary glass of the same thickness, combined with much greater resistance to impact. In the unlikely event of breakage, the glass forms small granules. VTough toughened glass cannot be cut or edgework processed after manufacture.

### Considerations

- ◆ **Heat soak treatment** – is recommended in certain applications by Viridian to provide a superior quality glass and may be a Viridian warranty requirement. In accordance with the BCA (2010) heat soak treatment testing on toughened glass will be mandatory in certain applications (more information please refer page 124).
- ◆ **Tolerances** – as listed in AS/NZS2208, toughened glass is inherently less flat than ordinary glass.
- ◆ **Windload** – toughened glass can be used in larger areas than ordinary glass of the same thickness. This allows a consistent thickness and appearance to be achieved in areas of higher windload or panel dimensions. Deflection should be checked.
- ◆ **Selection and glazing** – glass must be selected and installed in accordance with Australian Standard AS1288 or New Zealand Standard NZS4223. Attention is also drawn to the breakage characteristic of toughened glass and it is the specifier's responsibility to assess each application.

### Features

- ◆ **Strength** – toughened glass allows large, clear spans with minimum fixing. Toughened glass is used with bolt or patch fittings for frameless doors and assemblies, or glass shapes, including holes, that may weaken normal annealed glass. Toughened glass has good resistance to soft object impacts. For example, it is often used for basketball backboards.
- ◆ **Thermal resistance** – resists temperature differences of 250°C in a range of -70°C to +300°C. This means that toughened glass can be used in appliances, splashbacks and where thermal stress breakage is an issue.

### Range

Virtually all glass types can be supplied in toughened form, the exceptions being some deeply DécorPatterned glass, wired and glass for leadlighting.

- ◆ **Heat strengthened glass** – this is not a safety glass, but has approximately double the strength of ordinary glass. It is resistant to thermal breakage (temperature differential of 160°C) and if broken, breaks into larger pieces. This glass is used in building spandrel areas because it has less distortion than fully toughened glass or is also used where additional strength without safety is required.
- ◆ Viridian **Seraphic™** is toughened glass with a screen printed ceramic solid colour or design (refer page 75 and page 82).
- ◆ **VLam Tough™** – can be laminated for additional safety, solar control or appearance.

### Benefits

- ◆ Wide range of glass types available.
- ◆ Manufactured and distributed throughout Australia and New Zealand for ease of availability.
- ◆ Heat soak treatment recommended (more information please refer page 124).

## VTough™

### Applications

- ◆ Residential and commercial buildings where Grade A safety glass is a requirement
- ◆ Shower enclosures
- ◆ Spandrel and thermal safety
- ◆ Furniture
- ◆ Balustrades
- ◆ Shopfronts and entrances

### Minimum size

- ◆ 300 x 150mm

### Maximum size

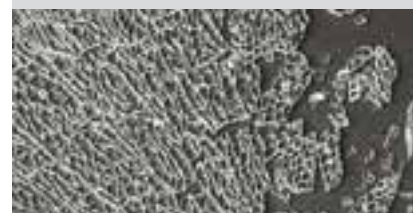
- ◆ AUST. 5500 x 2800mm  
N.Z. 3900 x 2080mm

### Thickness

- ◆ 4mm to 19mm glass

### How to specify

- ◆ **Select glass name**  
Viridian VTough
- ◆ **Select thickness – process**  
4mm to 19mm – Toughened  
4mm to 12mm – Heat Strengthened  
9.52mm to 39.52mm – Toughened/Laminate
- ◆ **Select colour**  
From VFloat range



VTough toughened glass, if broken forms small granules.