

# TOUGHENED GLASS



# Toughened Glass and its use with Particular Attention to Shower Screens, Splash Backs, Balustrade and Pool Fencing.

## It is important to note

Toughened glass is designed to shatter into fragments when broken rather than into large sharp shards that can potentially cause serious injuries. Fragmentation is the main safety feature of toughened glass, together with its increased strength – approx. 5 times that of annealed glass, making toughened glass far safer than annealed glass.

Totally frameless glass shower screens	Must be Grade A toughened glass (laminated annealed Glass does not comply with Australian Standard AS1288)
Semi frameless glass shower screens	Must be Grade A toughened glass (laminated annealed glass does not comply with Australian Standard AS1288)
Fully framed glass shower screens	Must be Grade A Glass - both toughened and laminated annealed glass can be used

Toughened Glass is a very strong and reliable glazing material affording manufacturers of glass products around the world the ability to offer their clients a very clean, clever, versatile and safe building material that is generally clear and easy to maintain.

Toughened safety glass panels to shower screens without frames are able to be fixed to a wall or frame leaving the clean edge of the glass exposed. This does however require extra care and maintenance as there is no exterior frame to protect the edge of the glass from impact either through general use, glass being knocked, banged, gouged, dragged or just a lack of general care or maintenance. We strongly recommend clients inspect their glass edges, frames, hardware etc regularly. Please call a local glazier if you believe the overall glass integrity has been compromised.

Our toughened safety glass is manufactured by Glass Processing Australia. As part of our manufacturing process we adhere to AS/NZS 2208:1996 and comply with the Australian Standards. This is all done in our Wangara factory. Glass is then supplied to DLC Group for their aluminium installation if required and then site installation. We are audited yearly and exceed the requirement. We test our product every hour or as required, which is for every change of substance i.e. 5mm clear toughened to 6mm clear toughened. The glass, as part of its required testing, is broken into fragments (frags) and then the number of frags are counted. This test is done in 2 locations on the panel of glass, within a 50mm x 50mm square and the number of frags are then recorded. Toughened glass is designed to shatter into frags as it is this process that makes it safer and stronger than standard annealed glass, about 5 times stronger. The down side to this is we are unable to assess why the glass has shattered safely into fragments in a pile on the floor. Therefore at this point we cannot attribute this to a toughening process failure.

Nickel Sulphide Inclusion – as per AGGA (Australian Glass and Glazing Association) Technical Fact Sheet

The presence of Nickel Sulphide Inclusion (NSI) is quite rare:

- Approximately one 'stone' of NSI is present per 8 tonnes of raw glass (although it can come in batches). The incidence of NSI varies from manufacturer to manufacturer with estimates ranging from one stone per 8 tonnes of glass to one stone per 13 tonnes of glass and some suppliers having a more frequent incidence than this.
- NSI can cause glass to fragment at any time in the product's life – from a few moments after thermal treatment to years after glazing installation.
- NSI can also affect some types of heat-strengthened glass.



To find out more about our products or for an obligation-free quote, contact us today on **08 9408 3000**

## HEAD OFFICE/SHOWROOM

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