



Knowledge

Heat Soak Treatment



Applications

Heat soak treatment should be used when specified in the BCA or when toughened glass is specified in structural applications and in locations where safety is paramount. These applications include:

- ◆ Viridian Structural Glazed Systems and suspended glass assemblies
- ◆ Balustrading
- ◆ Toughened glass used in spandrels
- ◆ Solar control glazing to high rise buildings
- ◆ Overhead and sloped glazing
- ◆ Warranty requirement

Maximum size

- ◆ 5500 x 2500mm

Reduce the risk of potential breakage from nickel sulphide inclusions

Description

Heat soak treatment is a quality control process carried out on Viridian toughened safety glass. It is designed to reject glass panels that may potentially break due to impurities such as nickel sulphide or defective edges that are undetectable during manufacture.

Benefits

Heat soak treatment significantly reduces the risk of breakage of installed toughened glass from spontaneous fracture. For building owners, developers and specifiers, heat soak treatment offers a number of benefits.

- ◆ Reduces potential public liability
- ◆ Low cost compared to glass replacement costs

Other considerations and alternative products

The breakage characteristics need to be assessed in the selection of toughened glass (refer to page 5 – selecting the right glass).

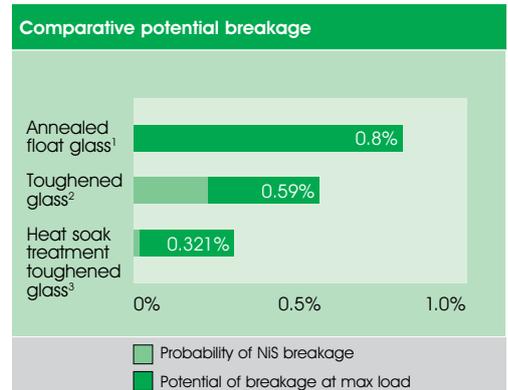
- ◆ **Laminated safety glass** – the PVB or resin interlayer will restrict glass granules falling.
- ◆ **Heat strengthened glass** – this provides resistance to thermal breakage and can resist greater loads than annealed glass.

Its breakage characteristic means that if large pieces are broken, they often remain in place similar to annealed glass. It is not a safety glass but has reduced potential breakage from nickel sulphide inclusions due to lower stress than toughened glass.

Technical outline

Toughened glass may potentially break from an impurity in the glass called nickel sulphide (NIS). This type of breakage is very rare as most breakages are the result of impact, incorrect glazing or structural movement. The heat soak treatment subjects toughened glass to elevated temperatures for a specific time depending on glass thickness.

The Viridian process is carefully controlled so that the toughened glass maintains its strength. NIS inclusions can occur in batches and therefore may be more apparent in isolated projects. The heat soak treatment reduces the risk by eliminating over 95% of the potential breakages due to NIS inclusions.



1 Based on 6mm float glass. 2.0 kPa windload, max area. Per Australian Standard AS1288 or New Zealand Standard NZS4223
 2 Toughened glass has 2.5 times resistance for equal load and thickness
 3 Heat soak treatment 95% NIS conversion