

# Toughened glass

## Safety guidelines for consumers

Toughened or tempered glass is commonly used in the manufacture of products such as stove tops and hobs, cookware, tableware and shower screens.

It is made by a process of heating glass to a molten state at about 600 degrees Celsius followed by sudden chilling by compressed air.

This cooling process causes the surface to contract rapidly, forming a rigid outer layer around the glass rendering it much stronger than conventional glass and far more resistant to impact stress and temperature change.

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## Toughened glass can break

A break in toughened glass such as a shower screen can occur when a small chip or weakening in the hard outer layer of the glass disturbs its surface tension causing it to burst inwards or implode. This can occur without warning.

Fortunately, the implosion of toughened glass products usually results in small blunt cube-like granules that are far less dangerous than the jagged shards produced when ordinary glass breaks.

Nevertheless, it is still dangerous if an implosion occurs when a person is in or near the shower at the time, due to the relatively large mass of glass and the fact that the body is largely unprotected in this situation.

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## Standards for shower screens

The Building Code of Australia requires shower screens and shower doors to comply with the requirements of two Australian Standards:

- AS 1288:1994, Glass buildings-Selection and installation
- AS/NZS 2208:1996, Safety glazing materials in buildings.

AS 1288 includes information on the selection and installation requirements for glass in buildings, including toughened glass, as well as human impact safety requirements. The Standard specifies that glass used in shower screens is glazed in either Grade A (toughened and laminated) safety glass or Grade B (wired) safety glass.

The minimum thickness of framed toughened glass is 4mm; the minimum thickness of partly framed and frameless toughened glass is 6mm. AS/NZS 2208 details the test requirements for glass including toughened glass.

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## Care and maintenance

Manufacturers often include an accompanying leaflet advising consumers how to care for their glass and hardware. It is important to follow the manufacturer's instructions. The potential risk of glass implosion can be minimised if the glass and hardware (hinges etc.) are properly maintained and cared for.

## Hinges and other hardware

The best way to maintain hinges and other hardware is to wipe them down after every use. When the hardware is kept clean, it will not collect mineral deposits that require the use of soap solution to remove. After your shower, use a dry towel to thoroughly dry the hinges.

If you are unable to dry your hinges after every use, a weekly cleaning is suggested. Use a mild soap and warm water mixture and a soft non-abrasive cloth. After you have cleaned the hardware, rinse it thoroughly with clean warm water and dry.

**IMPORTANT** – Manufacturers often provide a leaflet advising the proper care that should be taken with your toughened glass and hardware, along with certain warnings. Always follow the manufacturer's instructions.

## Glass

It is also important to keep your glass clean. Glass that is neglected will accumulate water spots, which will eventually turn into mineral deposits.

The best way to keep your glass free of potentially damaging water spots is to squeegee the glass after every use. Regular cleaning will save you a great deal of work if deposits are not allowed to accumulate.

**Do not** use any abrasive or cream cleanser.

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## Installation

How shower screens are installed has a bearing on safety and the possibility of an implosion occurring. The likelihood of an implosion is greater if a moving part, such as an unframed edge of a pivotal glass door, is in close contact with another hard surface. If an unframed edge is rubbing on another surface, have the glass and door hinges adjusted immediately.

Poor installation and maintenance increase the risk of toughened glass imploding.

By following these simple guidelines you can greatly increase the life of your hardware and glass.

Copies of AS 1288-1994 and AS/NZS 2208 can be purchased from Standards Australia by calling 1300 654 646.

**WARNING** – Never use abrasive cleansers of any kind on hinges and other hardware. Many of the components are coated with a clear lacquer that will be irreparably damaged if subjected to harsh abrasive chemicals or scrubbing devices.

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