



Advice

requirements for safety glass for dwellings

A photograph of two young children looking out a window. The child on the left has light hair and is wearing a green shirt. The child on the right has dark hair and is wearing a light blue shirt. The window they are looking out of is covered in a green-tinted safety glass with a grid pattern.

safety
glass



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Types of Safety Glass

There are two types of safety glass commonly used in residential buildings - toughened safety glass and laminated safety glass.

Neither type of glass is 'unbreakable'; both types are designed to break safely, minimising the risk of injury in the event of an accident.

Toughened glass breaks into small pieces (often referred to a 'dice') with dull edges which are unlikely to cause serious injury.

Laminated glass cracks, but any large or dangerous shards of glass remain bonded to the plastic interlayer.

The Building Regulations define 'Critical Areas' where safety glazing is mandatory. Areas such as doors and low-level glazing where a child might accidentally fall against the glass always require safety glazing.

Identification of Safety Glass

Each pane of safety glass should be marked with a stamp in the corner, identifying it as a safety glass. This mark should still be visible after installation (not hidden by the frame).



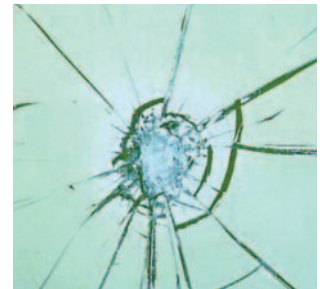
GlasSeal holds BS Kitemarks for laminated safety glass (BS EN 14449) and for toughened safety glass (BS EN 12150)



ordinary (annealed) glass breaks leaving dangerous sharp edges



toughened (tempered) glass breaks into small, dull-edged pieces



laminated glass breaks but fragments stay bonded to plastic interlayer



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Critical Locations

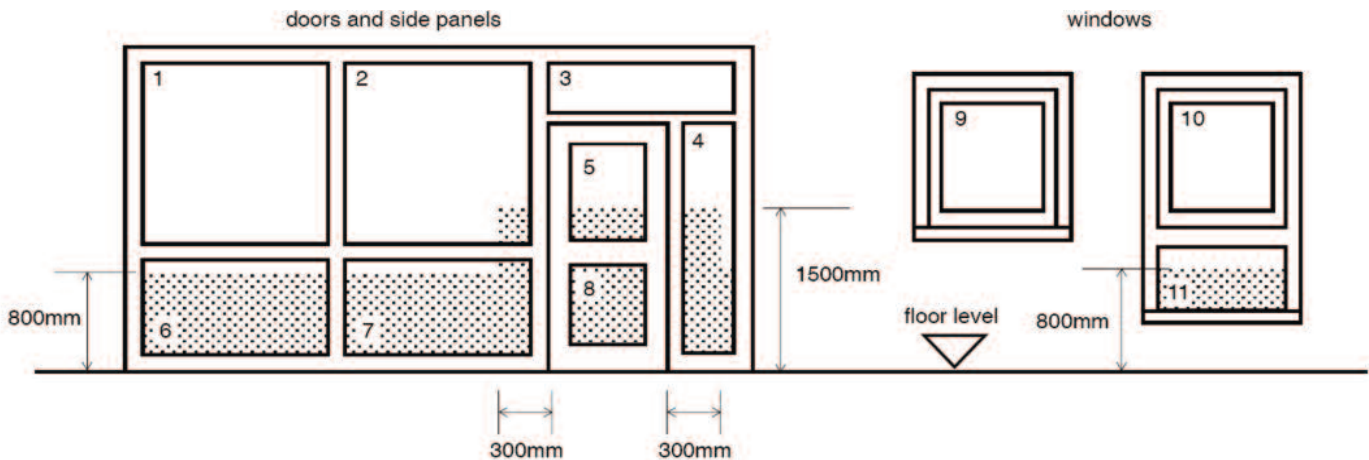
The Building Regulations refer to 'critical locations' where safety glazing must be fitted. It is illegal for an installer to fit non-safety glass in these areas.

Low-Level Glazing

Areas where some of the glass is within 800mm of the ground (externally) or floor level (internally) must be fitted with safety glazing. Where double glazing units are fitted, it is acceptable in the case where the glass is above 800mm externally, but below 800mm internally to install a glass unit with safety glass on the inner pane only. For peace of mind, you may want to ask for safety glass on both panes of the double glazing unit.

Doors and Side Panels

All doors (internal and external) must be fitted with safety glazing. In addition to this, all glazed areas immediately adjacent to doors must also be fitted with safety glass.



shaded areas show critical locations
(ie. glazing in areas 2, 4, 5, 6, 7, 8, 11)





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Additional Benefits of Safety Glass

Fitting safety glass in critical areas ensures that you, your family and visitors are less likely to suffer serious injury in the event of an accident.

Safety glass has other benefits too. Laminated glass helps to insulate against noise, filters out UV light thereby reducing fabric fading and improves security.

Toughened glass can withstand much higher mechanical and thermal stress than ordinary annealed glass. This makes it especially suitable for use in conservatory roof glazing where exposure to solar heat gain in summer and snow loads in winter would cause other types of glass to fracture.

The beauty of double glazing is that you can use one pane of each type of safety glass in the glass unit. A toughened glass outer pane and a laminated glass inner pane provide protection from much more than just the elements and the odd mishap.

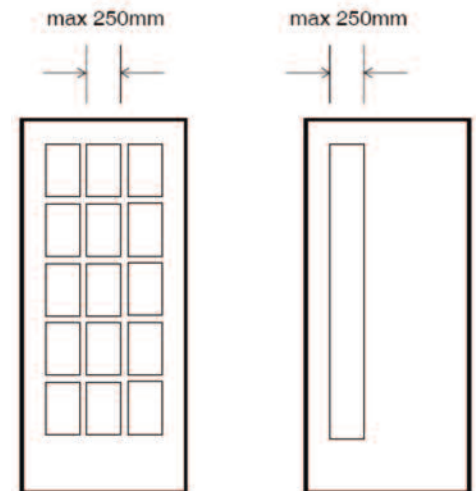
Small Panes

Thicker standard glass can be treated as safety glazing if used in small panes less than 250mm wide and less than 0.5sq.m in area.

Normal domestic grade glass is 4mm thick and would only be deemed safe in these areas if toughened.

Glass at least 6mm thick need not be toughened or laminated if fitted in small panes, as it is said to be 'robust'. This means that it is strong enough to resist most types of accidental impact.

If, however, the glass did break it may be dangerous, so you may want to ask your installer to fit toughened or laminated glass for peace of mind.



maximum area of single pane shall not exceed 0.5m².

small panes of annealed glass shall be not less than 6mm in thickness

