



Frameless Spider Glass Stairs and Floors

Sleek and modern, glass staircases and floors are a unique option for clients seeking an eye-catching contemporary look. Whether straight or curved, paired with wood or metal, our glass staircases offer limitless design options. Laminated structural glass stair treads and floors maximise light and spatial perception.



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PRODUCT OVERVIEW

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For mechanically fixed Floors and Treads special stainless steel spider fittings can be used to support glass giving it a unique 'floating' appearance above the structure. As the design load and support details are critical these systems require specific design and our technical staff should be consulted. The special effects and durability of TEMPASCREEN® screen printed glass and TEMPAGRIP® slip resistant glass can be incorporated into any design in combination with the special fixing techniques to provide an attractive and functional installation.



Guidance Notes for Frameless Glass Stairs and Floors

Thick float glass was traditionally used in glass floors where the glass was lit beneath or "borrowed light" was allowed to pass down to a space below.

Laminated glass is more commonly used comprising two or more panes of thick glass and this provides a safer option in case of breakage. Laminated glass is not as strong as monolithic float glass and must therefore be thicker for the same design loads. Toughened glass is not used in monolithic form because of its breakage characteristics, but it can be used in the laminate as heat strengthened glass where special screen printed or slip resistant effects such as TEMPAGRIP® are required. Heat soaking is highly advisable for all toughened glass lites in laminated glass considered for any flooring application.

Slip Resistant Floor Treatment

In some situations floors and stair treads require slip resistance and TEMPAGRIP® can be combined with patterns to produce a stunning visual effect on the upper glass surface. Special non slip adhesive tapes and films can also be used.

Glazing

Edge cover should be at least the thickness of the glass and the supporting frame must be designed to support the design loads with minimal deflection. Four edge support is recommended and designs with 2 or 3 edge support require specific design by our technical department.

The glass edges should be flat ground and cushioned from the frame by Santoprene or similar hardness material load bearing glazing strips 6mm thick. Special high density foam tape can also be used.

The design edge clearance between the glass and the frame should be 6mm and allowance should be made for cutting and manufacturing tolerance.

A flush finish at the joints is normally achieved with a silicone or other suitable sealant and the sealant must be compatible with the laminated glass and glazing components.

General

Always avoid hard, sharp objects coming into contact with glass floors and particularly high concentrated loads from heavy furniture, castors or similar. Endeavour to eliminate the possibility of impact from hard falling objects.

Lighting to enclosed voids under floors and stairs should be ventilated to avoid excessive heat and thermal fracture. For special applications requiring higher loads or for load conditions from AS/NZS 1170.1 specific design is required by our technical team.

Glass Design Two Edge Support

It is possible to span glass between supports such as stringers or other frame supports but the glass thickness needs to be increased to support the design loads due to bending stress in the glass. The glass can be simply-supported using load bearing glazing strips and sealants as per the installation details for four edge support.

The glass thickness calculation is more complex and often toughened and heat strengthened glass are combined glass in special laminate construction. Specific design is required for these systems and our technical staff should be consulted.