

counters signage kitchens sculpture balustrades feature walls bathrooms panels doors **Axolotl**

glass 2011



Axolotl Glass is a specialist architectural glass company that manufactures formed, blasted and deep carved glass for both interior and exterior use.

Axolotl Glass is an international award winner with products incorporated in unique, state-of-the-art applications, including feature walls, awnings, frameless doors, signage, water features, table surfaces and cladding.

With the ability to provide heavyweight glass and the new Miro range, the applications for using glass as a creative medium are virtually unlimited.

Axolotl Glass also offers a complete design service incorporating concept design and installation services.

arabesque

Ab

background pattern in glass

TECHNICAL DATA SHEET



▪ Features







Arabesque is a single presentation face glass product. Arabesque features a mixture of a matt blasted finish to the front face, and areas that have been left clear to allow the highly reflective rear surface create various patterns in the glass. A standard or custom range of patterns is available.

▪ Sizes

Arabesque is available in 6mm and 10mm thick material and is available as annealed, toughened and laminated formats.

The maximum size for arabesque is 3000mm x 1160mm.

▪ Colours

Oyster		Onyx	
Pearl		Jade	
Graphite		Sapphire	

▪ Availability

Orders are available with a 25 working day turn around from receipt of sizes and/or order.

▪ Uses

Ideal for protected feature walls and signage. Arabesque is ideal for areas where wallpaper or other design materials may be considered. Please note that the reflective coating on the rear surface is NOT suitable for immersion or exposure to water.



veil glass

Ve

obscure patterns in glass

TECHNICAL DATA SHEET



▪ Features







Veil is a range of soft carved glass available in a standard range of patterns. Veil is also available as a custom pattern for larger projects over 20 sq m. Carving offers the opportunity to work either one or both faces of the glass, increasing the range of optical effects available in the finished piece.

▪ Sizes

Veil is available in 6mm (matt blasted patterns only) 10mm, 12mm and 15mm thick material for matt blasted and carved patterns. We recommend that Veil be supplied as a toughened product.

The maximum size for Veil is 3000mm x 1160mm.

▪ Colours

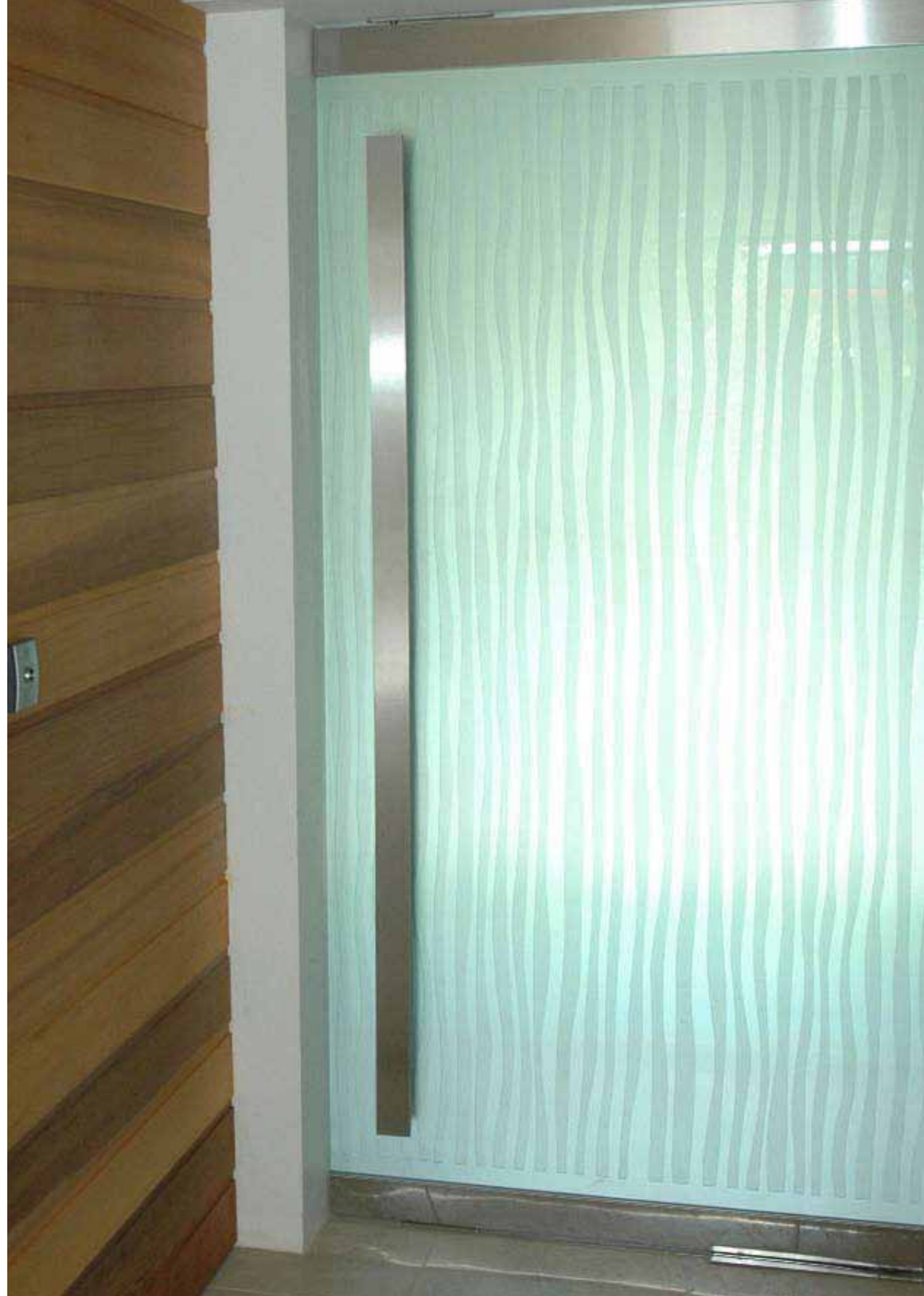
Clear		Bronze	
Low Iron		Grey	
Green		Azzurlite	

▪ Availability

Veil is available on a 20 working day turn around from receipt of sizes and/or order.

▪ Uses

Veil is ideal for screening where the transmission of light is still required, combined with the ability to manage the level of visual obscurity. Veil can be treated to either one or both faces and obscurity can vary with an open weave (clear glass between patterns) or a closed weave (overlapping blasted areas).



aura glass

Au

highlights in formed glass

TECHNICAL DATA SHEET



▪ Features







Aura is a range of textured glass where one face has been formed over a patterned mould to create a unique finish to every panel of glass. The finished glass is then detailed with highlight areas to create three dimensional images that feature both texture and fine detail.

▪ Sizes

Aura is available in 12mm, 15mm and 19mm thick material and can be supplied as annealed and a toughened product.

The maximum size for aura is 3200mm x 1500mm.

▪ Colours

Clear Float		Bronze Float	
Low Iron		Grey Float	
Green		Azzurlite	

▪ Availability

Aura is available on a 20 working day turn around from receipt of sizes and/or order.

▪ Uses

Aura is ideal for applications where specific details are required and where the finish product engages both the visual and physical senses. Aura features an applied film or air brushed detail to the front face so aura is best located where limited contact with the front face is possible.



rust patterns in glass

TECHNICAL DATA SHEET



▪ Features

Link is a range of carved and blasted glass with an applied RUST finish to one face. Link is available in a range of standard or custom patterns and the RUST coating is available in orange, brown or black. Link can be supplied on flat or formed textured glass with the front treated face matt blasted and rust coated, and the rear face carved or matt blasted to the selected pattern.

▪ Sizes

Link is available in 10mm and 12mm only and we recommend Link to be supplied as toughened products.

The maximum size for link is 3000mm x 1160mm.

▪ Colours

Clear Float



Bronze Float



Low Iron



Grey Float



Green



Azzurlite

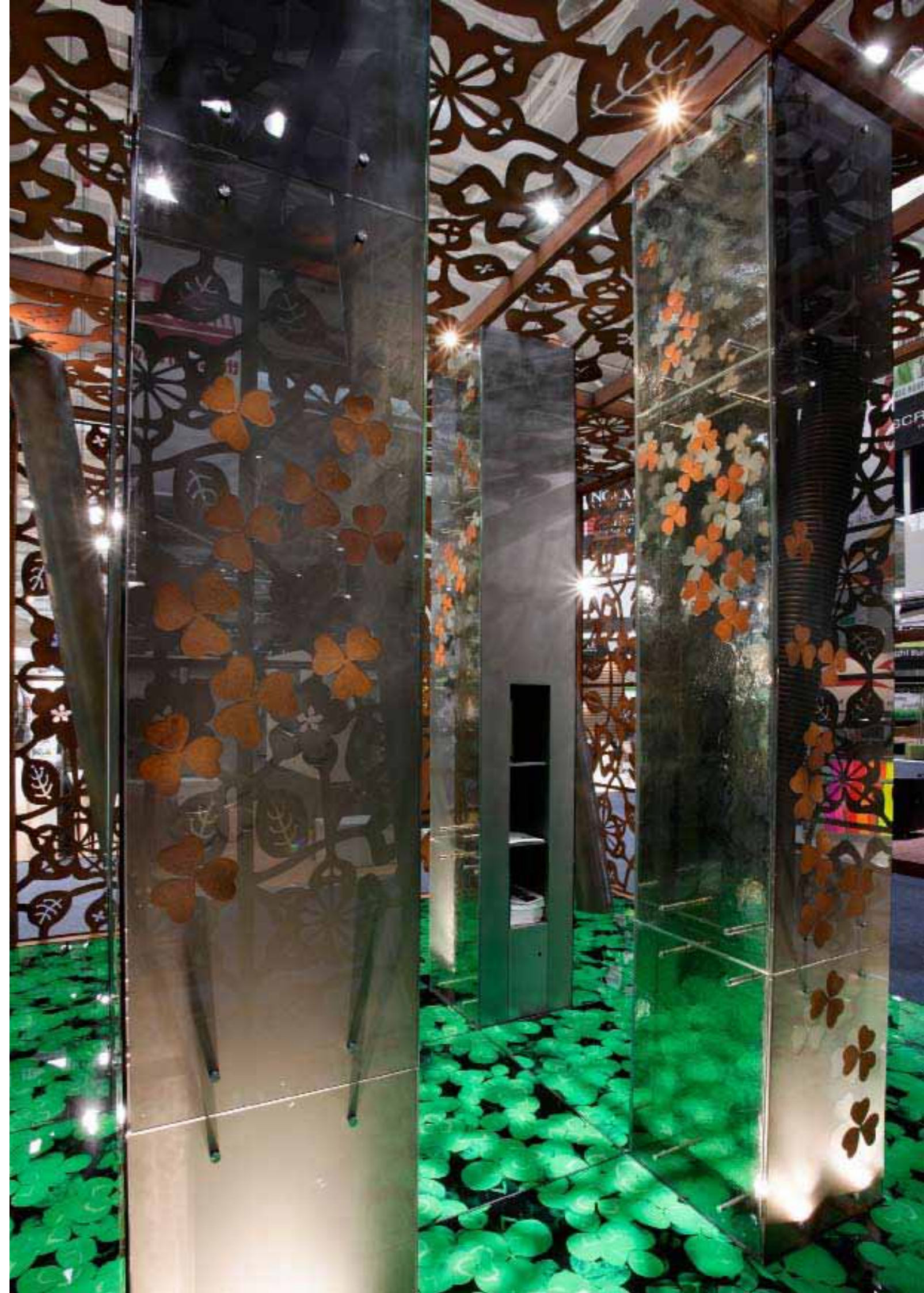


▪ Availability

Link is available on a 30 working day turn around from receipt of sizes and/or order.

▪ Uses

Link can be used for screens, feature walls, doors, signage, shower screens and balustrades. In fact anywhere you require beauty and durability as the product can be used in and outdoors.



formed glass

Fm

textured patterns in glass

TECHNICAL DATA SHEET



▪ Features

Formed is a range of textured glass where one face has been formed over a patterned mould to create a unique finish to every panel of glass. Formed is the ideal product to apply transparent coloured finishes and is a wonderful medium for corporate logos and text.

▪ Sizes

Formed is available in 10mm, 12mm, 15mm and 19mm thick material and can be supplied as annealed and a toughened product.

The maximum size for Formed is 3200mm x 1500mm

▪ Colours

Clear Float



Bronze Float



Low Iron



Grey Float



Green



Azzurlite

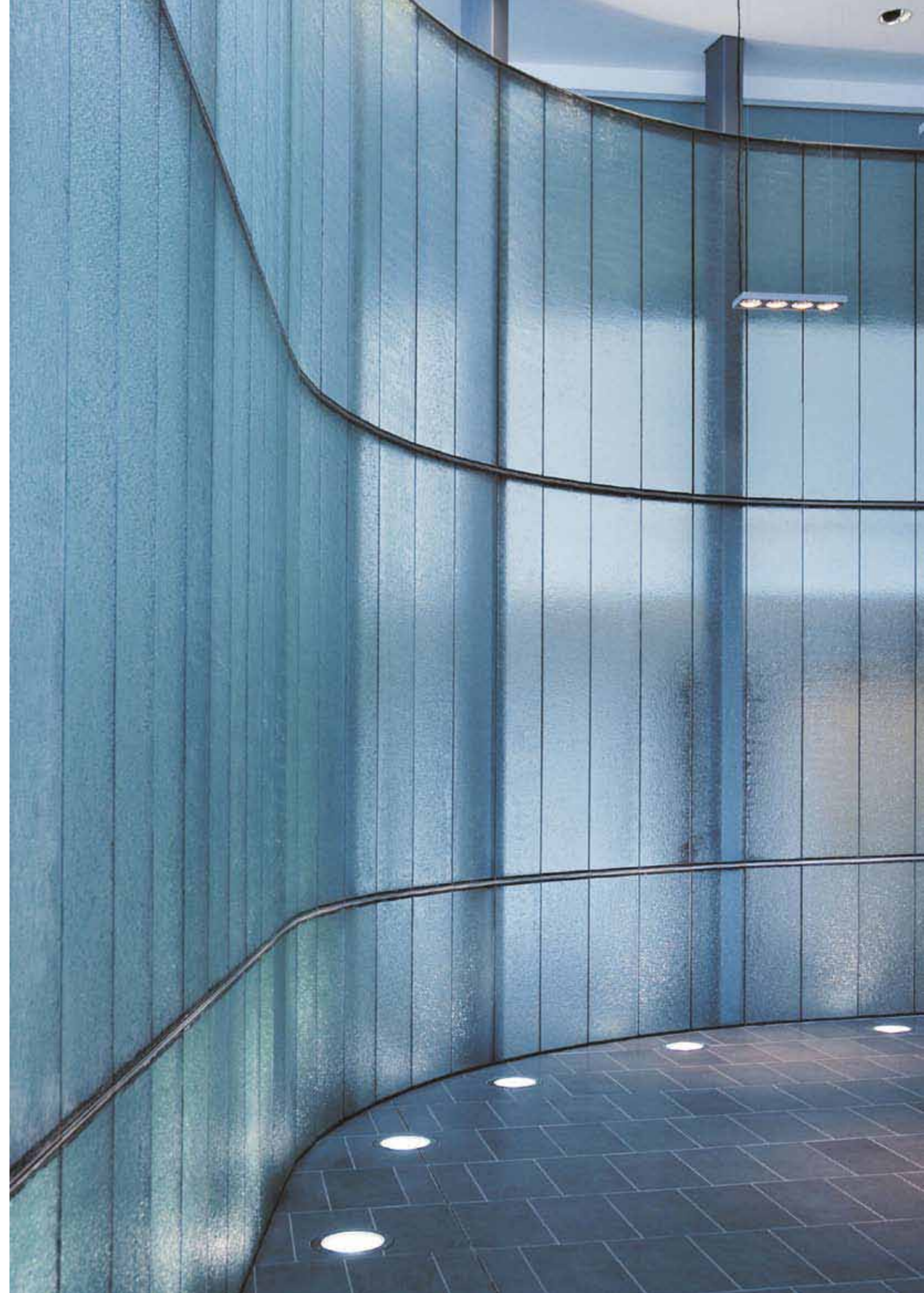


▪ Availability

Formed is available on a 20 working day turn around from receipt of sizes and/or order.

▪ Uses

Formed is ideal for screening where the transmission of light is still required. Formed can be used for shower screens, balustrades, frameless doors, feature windows and many other applications. Formed is also ideal for water features and all external uses as the nature of the product make it impervious to general wear and tear that other products may experience.



lustre glass

LS

satin touch to glass

TECHNICAL DATA SHEET



▪ Features

Lustre is a single presentation face glass product. Lustre has a matt blasted finish applied to the front face to give a satin like finish. The rear face has an applied, highly reflective coating that can be glue fixed to any substrate using a neutral cure silicone.

▪ Sizes

Lustre is available in 6mm and 10mm thick material and is available as annealed, toughened and laminated formats.

The maximum size for Lustre is 3000mm x 1500mm.

▪ Colours

Oyster



Onyx



Pearl



Jade



Graphite



Sapphire



▪ Availability

Orders are available with a 20 working day turn around from receipt of sizes and/or order.

▪ Uses

Ideal for protected feature walls and signage. Lustre can be worked to the front and back faces so offers a high level of individual customisation. Lustre is ideal to use in areas where light can be passed through the back face to give a beautiful muted finish to uses such as signage. Please note that the reflective coating on the rear surface is NOT suitable for immersion or exposure to water. Lustre is also not suitable for use as a working surface.



level glass

Lv

unique flooring in glass

TECHNICAL DATA SHEET



▪ Features

Level is a range of laminated glass that is ideally suited for floors or stair treads. Level is available in a composition of three or more layers of annealed or toughened glass. The top sheet features a non slip resistant coating that is fused onto the surface, and is available in a range of patterns. The composition of the laminate is held together with a high tear resistant interlayer that ensures the structural integrity of the finished panels.

▪ Safety

Level can withstand heavy traffic loads when combined with an approved structural support. The non-slip surface conforms to Australian and New Zealand Standards 4586-1999. Axolotl Glass recommends that for ALL installations the advice of an independent engineer must be requested to ensure the correct support and glass thickness is selected.

▪ Colours

Clear Float



Bronze Float



Low Iron



Grey Float



Green



Azzurlite



▪ Availability

Level is available on a 25 working day turn around from receipt of sizes and/or order.

▪ Uses

Level can be used for flooring when one of the interlayers is PURE white to disguise the method of fixing. Level is ideal for stair treads where light can penetrate to other spaces.



printed designs in glass

TECHNICAL DATA SHEET



▪ Features

Miro offers the ability to reproduce almost any image in full colour and high-resolution format. The image is protected by the laminated nature of the product. Miro features a central inter-layer that can be digitally printed. The interlayer can be clear, translucent or a pure white opaque finish.

▪ Sizes

Miro is available in 7.52mm, 9.52mm, 11.52mm, 13.52mm, 17.52mm, 21.52mm and 25.52mm thick. Miro can combine either clear to clear, clear to low iron or clear to mirror. Clear to clear and clear to low iron are available as both annealed and toughened with clear to mirror as annealed only.

The maximum size for Miro is 3600mm x 1950mm*.

▪ Colours

Clear float to clear float

Low iron to low iron

Clear float to low iron

Clear float to mirror coated

▪ Availability

Miro is available on a 20 working day turn around from receipt of sizes and/or order and approved artwork.

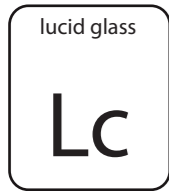
▪ Uses

Miro is ideal for screening where the transmission of light is still required. Miro is ideal for partitions where the desire is to offer a sense of privacy whilst still allowing light and movement to be evident. Miro can be used for balustrades, feature walls, splashbacks and other applications where vibrant details are required.

▪ Designs

Miro is available in a range of designs or images can be sourced from Shutterstock (www.shutterstock.com) to nominated artwork requirement. Axolotl Glass also offers custom designs, where almost any image or design can be printed to the interlayer. Refer to our separate sheet for artwork requirements.





heavy weight glass

TECHNICAL DATA SHEET



▪ Features

Lucid is a range of toughened safety glass from 10mm to 19mm thick.

▪ Sizes

Toughened safety glass is available in sizes up to 6000mm x 2800mm however careful consideration needs to be given to site access and handling in final selection of sizes.

▪ Colours

10mm – Clear, Low Iron, Bronze, Grey and Green



12mm – Clear, Low Iron, Grey



15mm – Clear



19mm - Clear



▪ Availability

10 to 15 working days from receipt of size.

▪ Uses

Ideal for pool fences, balustrade panels, frameless glass doors, shower screens and general uses where human impact is a consideration.



chroma glass

Ch

applied colour on glass

TECHNICAL DATA SHEET



▪ Features

Chroma is a single presentation face glass product. Chroma has a cold applied coating to the rear face that can be supplied in almost any paint colour. Chroma can be glue fixed to any substrate using a neutral cure silicone.

▪ Sizes

Chroma is available in 6mm and 10mm thick material in both annealed and toughened. Axolotl gGlass recommends toughened for all splashback applications.

The maximum size for chroma is 3000mm x 1200mm.

▪ Colours

Chroma can be supplied to match almost any standard paint colour available from recognised suppliers. Samples are available on request however a charge may apply. PMS references cannot be used. Axolotl Glass recommends that for close colour match a low iron glass be used.

▪ Availability

Chroma is available in 20 working day turn around from receipt of sizes and/or order.



▪ Uses

Chroma is ideal for splashbacks where individual colour is a requirement. Chroma can be used in all high traffic areas and is ideal for cladding to feature walls including bathrooms.



glow glass

GI

durable coloured finish to glass

TECHNICAL DATA SHEET



▪ Features

Glow is a single presentation face glass product. Glow has a permanent coating applied to the front face to give a satin like finish. The rear face has a cold applied paint finish that can be supplied in almost any paint colour. Glow can be glue fixed to any substrate using a neutral cure silicone.

▪ Sizes

Glow is available in 6mm and 10mm thick material and can ONLY be supplied as a toughened product.

The maximum size for glow is 3000mm x 1200mm.

▪ Colours

Whites - Vivid White, Antique White + Chalk USA

Neutrals - Yawood U 465, Wild Dove W 468 + Peplum W 358

Earth - Trinket box, Stone Crop + Hog bristle

Metallics - White, Silver, Gold, Charcoal + Black

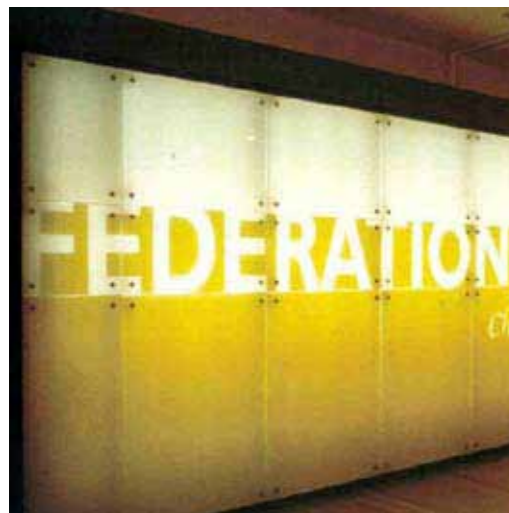
* Custom colours are available for orders over 20 sq m.

▪ Availability

The nature of manufacture requires a minimum of 10 sq metres for all orders with a 20 working day turn around from receipt of sizes and/or order.

▪ Uses

Glow is ideal for splashbacks where individual colour is a requirement with the benefit of the soft satin look to the face. Glow can be used in all high traffic areas and is ideal for cladding to feature walls including bathrooms.



sheer glass

Sh

durable translucent finish to glass

TECHNICAL DATA SHEET



▪ Features

Sheer is a translucent glass finish that is impervious to most of the issues associated with sandblasted glass. The translucent finish to the face is coated, and then fired on during the toughening process to offer a permanent and durable finish.

▪ Sizes

Sheer is available in 6mm and 10mm thick material and is available ONLY as a toughened product.

The maximum size for Sheer is 3000mm x 1200mm.

▪ Colours

Clear



Low iron

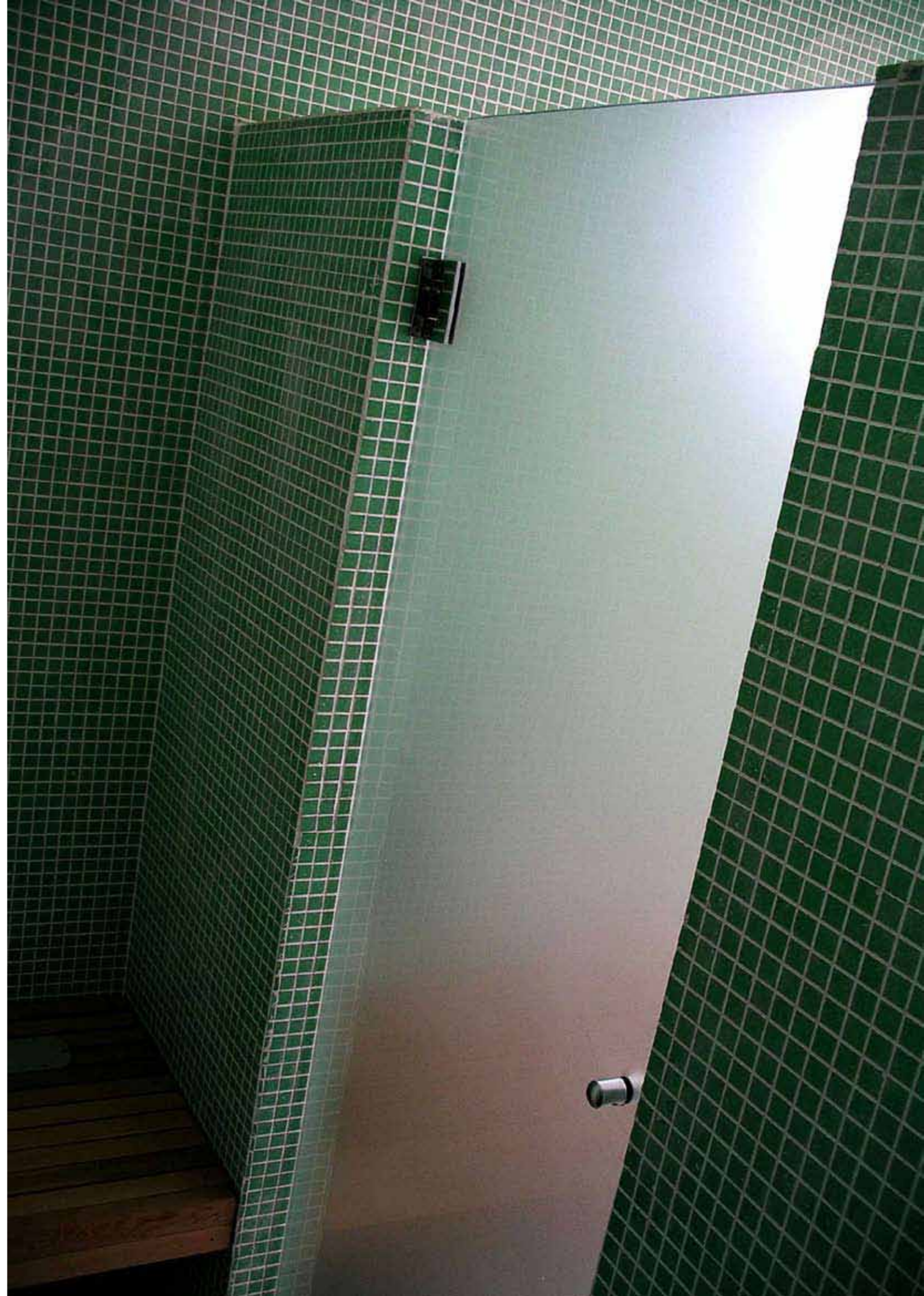


▪ Availability

The nature of manufacture requires a minimum of 10 sq m for all orders with a 20 working day turn around from receipt of sizes and/or order.

▪ Uses

Ideal for areas of high traffic as the presentation face is resistant to finger marking and damage caused through normal wear and tear. Sheer can be used EXTERNALLY and can be exposed to water and is ideal for bathroom applications. Other uses include balustrades, partition walls, entry doors, showers and numerous other applications.



zen glass

Ze

durable opaque finish to glass

TECHNICAL DATA SHEET



▪ Features

Zen is a single presentation face glass product. Zen has a permanent coating applied to the front face to give a satin 'Zen' like finish. The rear face has an applied, highly reflective coating that can be glue fixed to any substrate using a neutral cure silicone.

▪ Sizes

Zen is available in 6mm and 10mm thick material and can ONLY be supplied as a toughened product.

The maximum size for Zen is 3000mm x 1200mm.

▪ Colours

Mint - Ivory

Carbon - Sable

▪ Availability

The nature of manufacture requires a minimum of 10 sq metres for all orders with a 20 working day turn around from receipt of sizes and/or order.



▪ Uses

Ideal for areas of high traffic as the presentation face is resistant to finger marking and damage caused through normal wear and tear. Zen is ideally suitable for splashbacks, working surfaces and cladding to external surfaces. Please note that the reflective coating on the rear surface is not suitable for immersion or exposure to water.





laminated glass

TECHNICAL DATA SHEET

▪ General

Laminated glass comprises layers of glass in a sandwich type arrangement. The normal configuration is a layer of Poly Vinyl Butyral (PVB) laminated to two outer layers of glass.

PVB laminated glass is produced using an autoclave, which produces heat and a vacuum inside the vessel, in a controlled environment. This heat and pressure are applied to sandwiching a flexible interlayer between layers of glass. Generally, the interlayer has a thickness of 0.38mm with multiple interlayers available up to 1.52mm thick dependant on the application.

CIP laminated glass is manufactured by pouring resin into the cavity between two adjacent panes of glass. Inter-layer thicknesses of 1.0 to 1.5mm are common for CIP laminated glasses.

Laminated glass has the advantage over standard glass in that it will not shatter, as the polymeric interlayer is not subject to brittle failure as is the glass. Furthermore, the interlayer provides a barrier against penetration. Tinted interlayer materials can be used to help minimize heat transmission, while the polymeric material also acts as a sound deadening layer, damping sound transmission in a manner equivalent to glass twice as thick.

▪ Durability

Provided it is glazed in accordance with recommended glazing procedures and the glazing system is properly maintained; the life of laminated glass should equal that of the structure into which it is fitted. Resistance to surface abrasion is the same as normal glass.

▪ Exposure to elements

If glazed correctly, laminated glass will resist the most severe climatic conditions.

Sunlight - prolonged exposure to sunlight has no effect on the appearance or properties of the interlayer, however where glass may be exposed to extreme heat or variations to the temperatures on each face, it is recommended that toughened/toughened laminate is used, instead of annealed/annealed laminate.

Water - it is unaffected by water provided the interlayer is protected against contact with moisture.

Heat - recommended temperature range - 20 & 18°C to +70 & 186°C.

Wind loading - laminated glass has a tolerance to wind loading similar to that of annealed monolithic glass of the same thickness.

▪ Work in glass

Annealed/Annealed laminate cannot have any work in glass however toughened/toughened laminated glass can have holes, power point cut outs, notches, slots and shape cut outs provided the locations of such work in glass is in accordance with acceptable industry standards.



laminated glass

TECHNICAL DATA SHEET

▪ Light transmission

Unless pigmented for a particular purpose, PVB interlayer material is completely transparent giving laminated glass similar see-through quality and light transmission value as monolithic glass of the same thickness. Pigmented interlayer can exhibit a slight haziness under certain lighting conditions.

▪ Decoration

Laminated glass can be surface decorated by the same processes as normal glass. It will accept acid embossing, sandblasting and gilding treatments and can be painted. Because of the PVB interlayer, it is not possible to fire colours permanently into the glass. The Miro range of laminated glass however allows for a printed interlayer to be used suitable for any image and any colour. The printed interlayer can also be transparent, translucent or opaque and a printed interlayer is ideal for corporate signage or custom feature panels.

▪ Handling and Installation

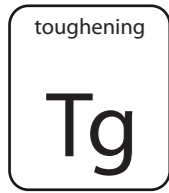
Laminated glass must be handled with extreme care to avoid damage to the edges. It should be stacked as near vertical as possible on a timber or felt-faced platform set at 90&186° to a back support. All the bottom edges of the laminates must sit firmly on the platform and the back support should either be continuous or so spaced to prevent the glass bowing. Storage areas must be dry.

▪ Cutting

Standard (three-ply) laminated glass can be cut with a normal diamond or wheel cutter. It should be scored on one side and the cut opened over a lath about 10mm thick. The glass is turned over and the same operation repeated on the second sheet exposing the interlayer, which can be severed with a razor blade. As PVB is a thermoplastic material, separation is made easier by gently warming the cutting area to about 20°C. Multi-Layer (five-ply) glasses and above can only be sawn and must always be ordered to the exact size.

▪ Maintenance

A periodic check should be made to ensure no moisture is in contact with the interlayer.



strengthening glass

TECHNICAL DATA SHEET

▪ General

The production of flat glass requires the molten silica based mix to be cooled slowly under carefully controlled conditions. This 'annealing' process removes most undesired stresses from the glass. Cooling occurs in an 'annealing lehr' (The 'annealing lehr' is the furnace after the float bath where the glass is slowly cooled to handling temperature).

Annealed glass which has been heated to a temperature near its softening point and forced to cool rapidly under carefully controlled conditions is described as 'heat treated glass'. This heat-treating process produces highly desirable conditions of induced stress, which result in additional strength, resistance to thermal stress and impact resistance.

Heat strengthened glass is classified as either fully toughened or heat strengthened. Fully toughened glass must have a surface compression of 10,000 psi (or more) OR an edge compression of 9,700 psi or more.

▪ Heat Treatment Principal

Glass can fracture when its surfaces or edges are placed into tension. Under these conditions inherent surface or edge fissures may propagate into visible cracks.

The basic principle of the heat treating process is to create an initial condition of surface or edge compression. This condition is achieved by initially heating the glass, then cooling both surfaces rapidly. This leaves the centre glass thickness relatively hot compared to the outside surfaces. As the centre thickness cools, it forces the surfaces and edges into compression. In practice wind pressure, impact and thermal stress (and other applied loads) must first overcome this compression before there is possibility of fracture.

▪ The Toughening Process

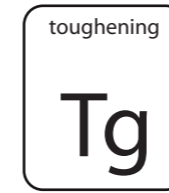
The key procedure is the application of a rapid air quench immediately upon withdrawal of hot (approx 648°C) glass from the toughening furnace. The glass is then immediately quenched for a sustained period with air, applied to both surfaces. Throughout the quenching process the glass panel is oscillating in all directions to ensure heat is extracted in a uniform manner. Uneven heat extraction may produce warpage and/or bowing in the finished glass panel. It is also important to sustain the quench for long enough to prevent the reheating of the glass surfaces, from the still hot glass core. A quenched condition becomes stable when the glass is reduced in temperature to approximately 200°C – 300°C.

▪ Work in glass

Toughened glass can have holes, power point cut outs, notches, slots and shape cut outs provided the locations of such work in glass is in accordance with acceptable industry standards.

▪ Strength

Under wind load pressure toughened glass is approximately four times as strong as annealed glass. It will resist breakage by small missiles travelling at approximately twice as fast as missiles which will break annealed glass. Toughened glass is also able to resist temperature differentials of 100°C -148°C, which would cause annealed glass to crack.



strengthening glass

TECHNICAL DATA SHEET

	Annealed	Toughened
Typical Breaking Stress (large panel/60 second load)	6,000 psi	24,000 psi
Typical impact velocity causing fracture (6mm x 5gm Missile with normal impact on surface of glass)	9 mtrs/sec	18mtrs/sec

▪ Safety

Safety of toughened glass comes from its inherent strength, and from its unique fracture pattern when broken. When fully toughened glass breaks, the glass fractures into small relatively harmless fragments. Fully toughened glass is a Grade A safety Glass when manufactured to meet the requirements of AS/NZS 2208:1996: 'Safety Glazing Materials in Buildings'. The selection of which type and thickness of glass should be made in accordance to AS 1288-2006 'Glass in Buildings – Selection and Installation'. Applicable building codes should also be checked for specific information and requirements.

▪ Handling and Installation

Toughened glass should be handled carefully as improper handling and/or installation may produce edge damage. A delayed breakage may ensue when edge damage toughened glass is subjected to a moderate thermal or mechanical stress. Full penetration of the compression layer will produce instantaneous total fragmentation. Toughened glass can therefore not be cut or modified following the toughening process.

▪ Imperfections

Inclusions in glass originate from impurities in the original batch or cullet, or from the furnace refractories. Common forms of inclusions include aluminous stones, ironstones and silicon. Nickel sulphide inclusions are microscopic defects in the glass that may cause breakages. A delayed breakage may occur when a nickel sulphide inclusions is present near the centre of the glass thickness, and the surrounding atmosphere 'grows' this inclusion to the point of breakage.

▪ Visual Appearance

Toughened glass possesses the basic optical qualities of annealed glass. The induced stress caused during manufacture may sometimes produce a slight bow or warp in the finished product. The glass may also contain very slight roller wave caused by contact with the quenching rollers in the manufacturing process. The air quench area can also be seen through polarized glass and appear as arrays of iridescent spots or lines. Under some lighting conditions these patterns can be seen in ordinary light.

