

Custom Laminated Glass

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Our Capabilities

Maximum Size: 2200mm x 4900mm

Maximum Panel Weight: 600kg

Production Capacity: 25,000m² pa

Laminates Available

PVB interlayer

Laminated glass is made by sandwiching a layer of polyvinyl butyral (PVB) between two pieces of glass.

Sentryglas Interlayer

Five times stronger and up to 100 times more durable than conventional laminating material.

PDLC

Switchable Glass, able to create privacy at the flick of a switch.

TPU Interlayer

Used primarily for security and ballistic combinations.

EVA Interlayer

Used for decorative laminating such as textures and fabric

Speciality Products Available on Request

- Heated Glass (Fritted and IGU)
- Switchable PDLC Glass
- Electrochromic Glass
- Vanceva® Color - A wide range of eye-catching coloured polyvinyl butyral (PVB) interlayers used in laminated glass.
- Grey PVB
- Printed PVB
- Printed PET
- Bullet Resistant Glass
- Fire rated Glass
- Bent Glass
- Acoustic Laminated Glass
- Cyclone Resistant Glass
- GlassStair treads

Advice Care & Cleaning of Glass

The following information is provided as a general guide.

Specific advice should always be sought from a glazier or window cleaner before cleaning takes place.

Care

- It is recommended that glass be protected from contamination caused by building materials.
- Construction dust and rusting from steel can contribute to the formation of mild chemicals, which may stain or damage glass.
- Glass installed adjacent to concrete (e.g. concrete floor slabs) requires extra care and cleaning due to the abrasive nature of concrete dust.
- Extra care should be exercised where high performance reflective glass and low E coated glass is installed. The coated surface on some products can be susceptible to stains and scratches.
- Welding, sandblasting and floor sanding can be potentially damaging practices if conducted near glass.
- Tradesmen should be advised to avoid damaging glass and windows and to leave in place any protective materials.
- Materials protecting glass should not be in direct contact with the glass to avoid the possibility of staining.
- Some tapes or adhesives can stain or damage glass surfaces. Avoid using such materials unless they can be removed easily.

Cleaning

- Glass should be cleaned using only cleaning materials which are free of grit and debris.
- Use only detergents and cleaning solutions which are recommended for cleaning glass. Mild detergents are preferable.
- It is recommended that some jewellery and watches be removed while cleaning. Gloves should be worn during the cleaning process.
- Do not allow cleaning solutions to contact the edges of laminated glass, insulating glass units or mirrors.

Mirrors

- Mirrors require special cleaning care. To clean mirrors, wipe the surface with methylated spirits on a damp cloth. Polish dry with a lint free cloth. When cleaning, avoid any moisture contact with the mirror edge and backing. Ensure cleaning cloths are free of any abrasives.
- Abrasive cleaners, powder based cleaners, scouring pads or other harsh materials should not be used to clean mirrors, windows or any other glass products.

Toughened Glass

The cleaning of toughened glass requires special care.

- Due to the manufacturing process, toughened glass may have "pick up" on the opposite surface to that with the standards compliance stamp. Very small particles of glass fuse to the surface during the toughening process. This is referred to as "pick up."
- Sharp blades and scrapers should be avoided as they can dislodge any "pick up" and result in scratching. A soft cloth which will not dislodge "pick up" should be used.
- It is suggested that cleaners consult with their suppliers as to the suitability of available cleaning equipment, materials and methods.

Paint

- Paint spots have traditionally been removed using a razor blade. The use of a blade in some cases can cause damage to the glass. If a blade or scraper is used then the risk of damage can be reduced by using a scraper which has a clean edge and is held at an angle of 30 degrees to the glass.
- An alternative may be solvents or graffiti removal materials. However, surface coated or tinted glass requires special care.

Advice for Hand Cleaning of Low Emissivity Coated Glass

(Includes ComfortPlus, EnergyTech, EVantage, SolTech and Sunergy range of products)

These products have a very thin coating on the interior glass surface. It is this hard and durable coating which gives the products improved thermal insulation and solar control performance compared to ordinary clear glass. The coated surface of Low Emissivity glass cleans differently to ordinary glass and these guidelines are recommended for the most appropriate hand cleaning results

Routine Cleaning

- Hand cleaning of the coated (interior) surface to remove visible accumulated dust or fingerprints can be accomplished using a number of different glass cleaning products.
- The exterior surface of the glass is not coated and so can be cleaned in the same way as ordinary glass.

Recommended Routine Cleaning Products

- Windex® Multi-Surface Cleaner (colourless liquid) produced by SC Johnson & Son Pty. Ltd.
- A mixture of one part vinegar with ten parts water.
- In addition to the above, commercially available vinegar-based glass cleaners have generally demonstrated an ability to provide a clean, streak free glass surface. The use of ammonia-based and alcohol-based glass cleaners is not recommended as these products tend to leave visible streaks.

Routine Cleaning Procedure

- It is recommended that jewellery and watches be removed prior to cleaning and that gloves be worn.
- Flood the glass surface with the spray-on cleaning solution or with a cloth saturated with the cleaning solution.
- Be generous with the amount of solution applied.
- Scrub the wet surface with a clean, lint-free towel or cloth.
- Wipe dry with a dry, clean, lint-free towel or cloth. Do not use a squeegee on the coated (interior) surface.
- To prevent streaking, stop wiping when the glass is almost dry and there is a uniform film of moisture left on the glass surface. The film will quickly evaporate leaving a clean surface.

Spot Cleaning

Occasionally spot cleaning may be required to remove stubborn dirt or foreign materials which adhere to the surface. Spot cleaning products work to remove markings from grease, oil, tape adhesive and crayons or other waxy materials, as well as paint and rub-off marks from plastics.

Recommended Spot Cleaning Products

- Acetone (solvent available from hardware stores) must be used strictly in accordance with the manufacturer's recommendations and warnings.

Spot Cleaning Procedure

- Apply a small quantity of the cleaner listed above to a clean, wet cloth or towel.
- Rub on areas of glass needing spot cleaning.
- Wipe clean using a dry, clean, lint-free towel or cloth followed by a routine cleaning procedure.

Specialised Cleaning

Do not use razor blades, steel wool, scouring bristles or other metallic or abrasive objects on the coated surface. If metallic objects contact the coated surface, a thin layer of metal removed from the object may be deposited onto the surface and may result in a discoloured stain which is difficult to remove using normal cleaning procedures.

Recommended Specialised Cleaning Products

- Hydrochloric Acid (available from hardware stores). Special care should be exercised with this product and gloves and protective eyewear should be worn when handling.

Specialised Cleaning Procedure

- Carefully follow the chemical manufacturer's use and safety instructions. If there are none, pick a brand that has instructions and safety precautions or contact the manufacturer before use or application.
- Apply a small quantity of the specialised cleaning product listed above to a wet, clean cloth or towel. A cotton bud may be used for thin line type marks.
- Rub on areas of glass needing cleaning.
- Wipe clean using a dry, clean lint-free towel or cloth followed by a routine cleaning procedure.
- Ensure that the cleaner does not come into contact with framing materials.

About This Cleaning Advice

This information is offered as a general guide only and specific advice should always be sought from a reputable glazier or professional window cleaner before undertaking any cleaning. This guidance does not preclude the use of other methods, materials or equipment, however the user should undertake careful evaluation and make suitable enquiries as to the suitability of alternative methods, materials or equipment, before using them.

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Laminating Standards

Product Acceptance Standards for Custom Laminated Glass

Scope

1. Standards Compliance

Products are supplied in accordance with this Product Acceptance Standard and conform to the following Australian Standards.

AS/ NZS 2208: 1996 AS/ NZS 2080: 2006 AS 1288: 2006 AS/ NZS 4667: 2000

A Certificate of Compliance can be supplied on request

- "Safety Glazing Materials in Buildings"
- "Safety Glass for Land Vehicles"
- "Glass in Buildings-Selection & Installation"
- "Quality requirements for cut to size and processed glass"

2. Identification Label

Products will be supplied with an appropriate label. This label verifies manufacture by our company, our licence number, glass thickness and conformity to AS/ NZS 2208 or AS/ NZS 2080 standards certification.

For example:

Individual panels of toughened glass incorporated into a custom laminated product are not stamped.

3. Product Range

- Annealed
- Laminated Glass
- Heat Strengthened
- Laminated Glass
- Toughened Laminated Glass
- All toughened substances must have a minimum of 1.52mm interlayer.

4. Size Range

- Minimum Size: 100 X 350mm.
- Maximum Size: Length 4000mm (Refer to Production). Width depends on laminate size.
- Maximum Height: 350kg/m² per make-up.

5. Minimum Charges

A minimum charge of \$300.00 (plus GST) applies. A minimum area charge of 1m² per panel applies.

6. Dimensional Tolerances

Size

Glass Thickness < 10mm

Glass Thickness > 10mm

Length/width (tolerance) for glass < 1200mm + 2mm + 2mm Length/width (tolerance) for glass > 1200mm

+ 2mm

+ 3mm

Squareness

Maximum difference in diagonals is 5mm for panels with the largest dimension less than 1200mm, or 10mm maximum if the largest dimension is greater than 1200mm.

Misalignment

Edge slip of up to 3mm between glass components is acceptable.

Bow

Not to exceed 1:300 when glass is standing vertically. Total bow across panel is not to exceed 10mm in depth.

Holes

Misalignment of holes is acceptable, provided it does not exceed 4mm.

7. Surface Quality

The glass is to be inspected in transmission (looking through the glass) at a distance of 3 metres at a viewing angle of 90° (perpendicular) to the surface and as normally viewed using daylight without direct sunlight or with a background light suitable for observing imperfections. Scratches, scars, surface marks and imperfections are acceptable if not readily visible from the viewing distance.

Roller Wave Distortion

- An inherent consequence of the heat treatment process is roller wave which is caused by the heated, slightly softened glass being in continual contact with the oscillating ceramic rollers. This distortion is more noticeable in reflective or dark tinted glasses and if applicable, the direction of roller wave should be specified.
- Roller wave on heat strengthened and toughened laminated glass not to exceed 0.15mm over 300mm.
- Edge kink not to exceed 0.25mm in 300mm.

8. Edge Quality**Clean Cut**

Maximum shelling and flanging to be no more than 50% of the total substance thickness and to a maximum of 5mm in from the edge.

Arrised Edge

Chips and shells are acceptable provided they:

- Extend no greater than 5mm from the edge of the glass.
- Do not exceed half the glass thickness.
- Are not vented.

Flat Smooth / Flat Ground Edge

No shells are permitted.

Grind marks are permitted but must be of light intensity (not visible at greater than 900mm). Chips and shells are permitted provided they:

- Extend no greater than 2mm from the edge of the panel.
- Extend no greater than 2mm into the glass thickness.

Flat Polished Edge

Finish and arris must be uniform. Chips and shells are not permitted.

Mitred Edges

- As for flat smooth / flat ground.
- Vented edges are not permitted.

9. Interlayer Snap Back / Shrinkage / Edge Delamination

Laminated glass within specification may exhibit a measure of delamination. From any edge of the laminate interlayer, snap back, shrinkage or delamination is acceptable if no more than:

- 6mm for laminates containing 0.76mm interlayer.
- 10mm for laminates containing 1.14mm and 1.52mm interlayer.

10. Interlayer Bubbles

- Acceptable if not visible from a viewing distance of 3 metres.
- Bubble/Inclusion

Up to 2.5m²

Over 2.5m² No limit 4

<1.0mm 1.0mm – 5.0mm Effective: 01/04/11 Replaces: 10/08/09 No limit 2

PictureGlass

Care & Handling Guidelines

Storage

No special storage is required for the PictureGlass Graphic Insert (PGGI). A good idea is to store the supplied film in the packaging received.

Handling

Care must be taken in handling the PGGI, including attention to:

- Dispense, cut, and move the PGGI in such a way as to prevent any creases, folds, or crimps.
- Hold the film only at the extreme edges and never with bare hands. Use clean lint-free cotton or non-powdered latex gloves.
- Avoid scratching the film. Sliding the film on any hard surface can scratch it.
- Wipe clean the surface of each film sheet as needed using a liquid film cleaner with a non-abrasive material, to ensure the film is not scratched and that there is no surface contamination.

Artwork Bleed

Every PGGI will be produced and supplied to a size larger than the ordered artwork area as specified by the Artwork and File Submission Guidelines document. This additional area or excess artwork is referred to as 'image bleed'. The image bleed is intentionally supplied for a number of useful reasons including:

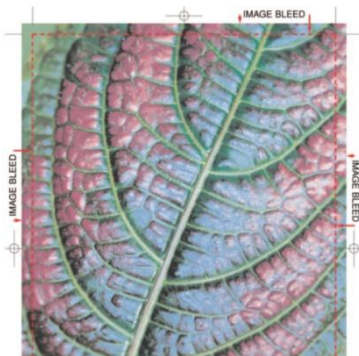
- The bleed marks the edge of the specified art work area produced.
- The bleed allows for various film markings to be displayed on the film such as crop marks, the sales order / PO number and any glass or glazing references that are useful.
- The bleed size will usually be a minimum 1/8" and a maximum 1".
- The bleed is okay to be removed before or after laying-up and lamination depending on the chosen method for laying up the film into glass, pre-lamination and lamination in autoclave or oven.

Film Markings

Every PGGI will include a number of markings usually within the bleed area. The markings are referred to as 'crop marks'. The crop marks indicate the edge of the specified or produced artwork within the supplied film sheet. The crop marks should be aligned with the edge of the glass to ensure appropriate alignment of the PGGI within the glass lites and interlayer used. The film dimensions and glass sizes should be double checked before processing.

Orientation

Every PGGI should be positioned within the glass lites facing upwards or 'face-up' and correspond with any specified artwork layout and orientation guide. Additionally it is important to align each PGGI within glass lites accurately to ensure the alignment of artwork split across multiple finished panels.



PictureGlass Artwork and File Submission Guidelines

The following document outlines the artwork submission requirements for each PictureGlass Graphic Insert (PGGI) job.

Artwork Resolution

- For optimum reproduction quality, files should be supplied at 300 PPI (Pixels Per Inch) at the final application dimensions.
- For all artwork a hardcopy printed proof or spot colours should be provided in one of the universal colour systems such as PMS.

Colour Mode

The preferred colour mode for artwork to be supplied in is CMYK. RGB artwork files will be converted to CMYK.

File Formats

- PictureGlass can accept both raster and vector format artwork.
- Where raster format artwork is supplied, such as where digital files have been produced by digital cameras or alternatively high resolution scans of film transparencies, the preferred file format is PSD, PDF, TIFF or JPG (high resolution). For all file formats, ensure that minimal file compression is applied to files.
- Where vector format artwork is, such as where artwork has been illustrated, then any text should be outlined or converted to paths.
- Additionally, all fonts should be supplied.
- The acceptable file formats include AI, EPS and PDF.

Note: Vector artwork is scaleable to any size at the maximum resolution/quality.

Image Bleed and Crop Marks

All artwork files should include a minimum image bleed of at least 10mm or 1/2", applied to all edges of each artwork file. In addition, crop marks should be placed at the edge of the bleed on all edges of artwork.

Labelling of Artwork Files

The PictureGlass production department will endeavor to match any glazing or panel labelling system as supplied.

Samples

- To assess the quality and suitability of artwork for each project, PictureGlass will supply a number of project samples from supplied artwork. The samples should generally include a cropped sectional sample at 1:1. The desired sample size(s) is to be agreed upon per project.
- Sample artwork files should be submitted in the same manner as final project artwork.

Submitting Artwork

- Please contact us to discuss file transfers/sharing.