INDUSTRY TERMS

CLEAR FLOAT

As the name suggests, clear float glass is colourless and highly transparent when viewed face on with a slight green tinge when viewed on edge. If offers a very high level of natural daylight or visible light transmittance to pass through it and little resistance to the sun's direct solar energy. Thicknesses produced range from 2mm to 25mm.

TONED/TINTED

Produced by adding small quantities of metal oxide colourant during a clear float production run. The colour created is embedded in the glass and cannot be removed. Most common colours are grey, green, blue and bronze. Tinted glass is primarily designed to provide a greater degree of solar control for buildings.

LOW-E COATED GLASS

Low-E coated glass is designed to provide a higher level of energy efficiency and control over climate. Non coated or standard ordinary glass provide only a solar control function as a single glazed glass (but can provide thermal control when double glazed). Low-E coated glass provides both solar and thermal control in both single and double glazing. Coated glass is made by applying thin layers of metal compounds during or after float glass manufacture.

The industry provides a wide range of coatings with differing levels of performance and colours.

INSULATED GLASS UNITS

Also called IGU's or Double Glazing, consist of two or more panels of glass separated by a spacer bonded together with the void filled with air or Argon gas. IGU's are a significantly more energy efficient glazing system than ordinary single glass.

TOUGHENED SAFETY GLASS

Ordinary float glass is heated to approx. 620oC in a toughening furnace and then automatically conveyed to a quench chamber where it is snap cooled to produce glass which 4 to 5 times stronger than ordinary float glass. If broken, the whole panel of glass shatters into smaller pieces of relatively blunt granules.

LAMINATED SAFETY GLASS

A safety glass made by laminating two or more sheets of glass with a flexible plastic based interlayer or PVB. The glass and PVB are bonded together by heat and pressure in an autoclave.

Different interlayer and glass combinations can provide safety, noise reduction, security and climate control benefits over ordinary single float glass. In the event of breakage, depending on the severity of the impact, glass will not splinter into jagged dangerous pieces and will remain intact in the opening.

TOUGHENED LAMINATED GLASS

A safety glass where the glass panels are toughened before being laminated. This provides added strength and security features over single toughened or laminated glass.

MIRROR

Produced by coating clear or tinted float glass with silver and then layering protective coats of paint to prevent corrosion. Available as a safety glass with a thin vinyl sheeting that is bonded to the glass.

PATTERNED GLASS

Along with decorative applications, pattern glass provides a degree of privacy by diffusing the object rather than obscuring.

ACID ETCHED GLASS

Applying an acid wash to one surface of the glass produces a frosted type finish.

PRINTED GLASS

A ceramic based paint is applied to the glass which is then fused together during the toughening process. Ceramic based paints are permanent, durable and non-porous. Printed glass can be supplied in full panel colours or with digital image applications.

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BASIC INDUSTRY TERMS

Glass is generally sold as cut-to-size panels cut from larger sheets of glass or as original sized 'loose' sheets and bulk sheet quantities. Bulk sheets are sold as blocks or packs, timber cased or end capped glass.

For sizing descriptions, the industry norm is to always state height first and then width.

Glass is sold and calculated as square metres (height x width).

FOR EXAMPLE: 1200mm H x 1500mm W

Convert to m (metres) first = 1.2m x 1.5m

= 1.8 sqm^2 of glass

Processing refers to work done on panels of glass (by machinery or manually), such as edge polishing, holes, cutouts & shapes. Glass perimeter edgework such as Flat Polishing is charged per lineal metre (height + width x 2, for a full 4 sided perimeter polish).

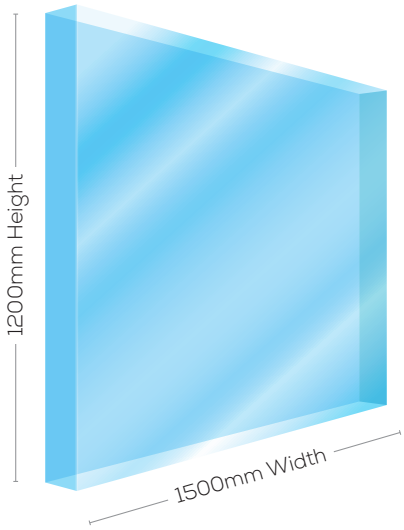
FOR EXAMPLE: 1200mm H x 1500mm W

Convert to lm (lineal metres) first = (1.2 lm + 1.5 lm) x 2

= 5.4 lm of flat polishing

Other processes e.g. holes, cutouts generally charged as per or eaches.

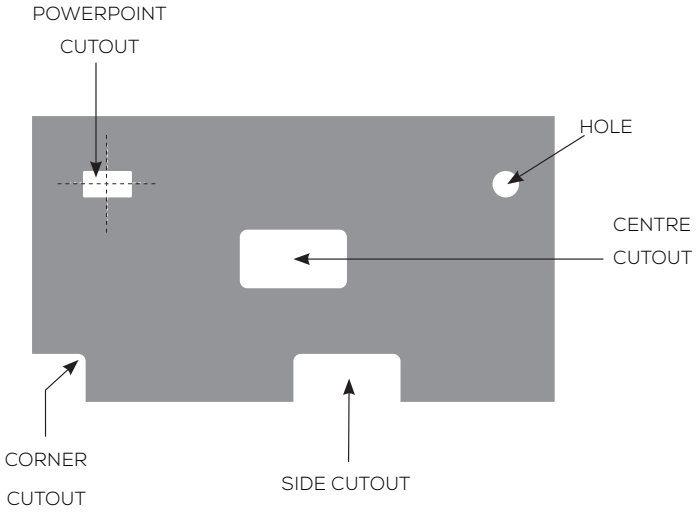
DIAGRAM A: SIZING DESCRIPTIONS



EDGEWORK AND PROCESSING

Glass is used in many applications where edgework or surface processing of cut-to-size glass panels are performed. Precision cutting and drilling through CNC stations help to achieve the standards required. This includes high quality flat polished perimeter edges, internal cutouts and holes. Though templates are sometimes required, the preference is to accept from customers CAD type based files which ensures precision outcomes.

DIAGRAM B: TYPICAL HOLE & CUTOUT DIAGRAM



INDUSTRY TERMS

GLASS SURFACE POSITIONS

To aid correct specification and make-ups the sides of a sheet of glass or surface position are identified by a simple numbering method i.e. #1,2,3,4 as shown Fig's 1-4. For single monolithic low-E glass the default coating position is #2 and for single low-E laminated is #4. The low-E coated surface needs to be air side for it to function in relation to thermal heat control (U-value). It is possible to make-up a laminated glass such that the coating is #2 or #3 (Applies to hard coat low-e glass types only). The coating would now be sandwiched between the two glass panels and would lose its thermal control function (eg., the U-value would be the same as that of ordinary non-coated single glass). This same make-up does not retain all of the solar control properties (SHGC value) you have when the coating is normally on #4.

For single glazed low-E glass, the coating should always be facing the inside of the building with no prolonged contact with moisture or direct weathering. For IGU's the general rule is that the low-E coating is surface position #2 (facing the IGU cavity). This provides optimal solar control whilst protecting the coating itself.

FIG.1 SINGLE LOW-E

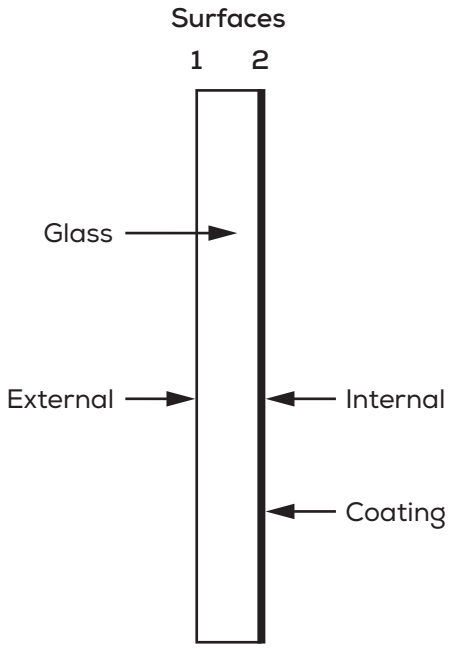


FIG.2 SINGLE LOW-E LAMINATED

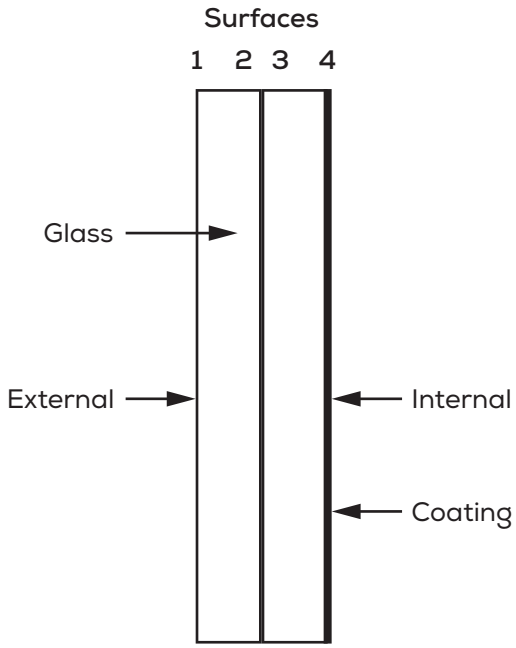


FIG.3 IGU LOW-E

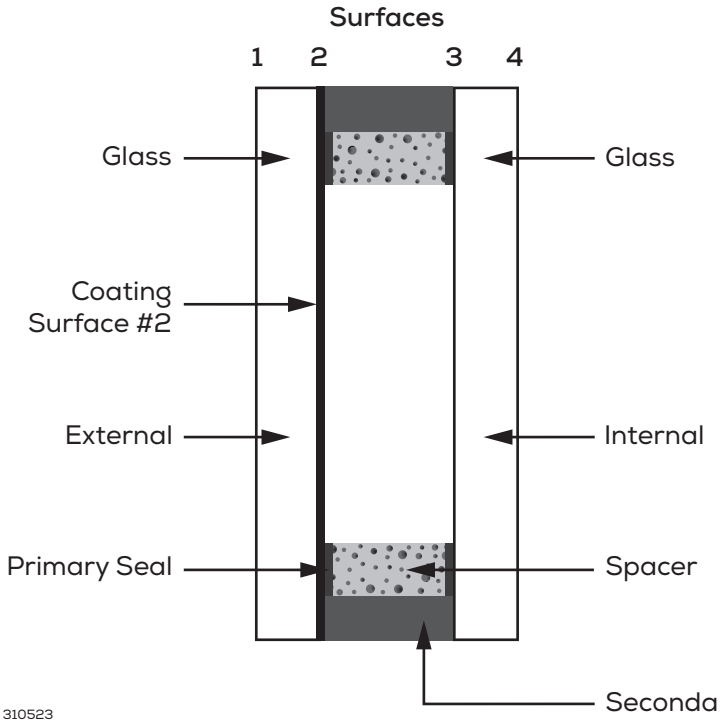


FIG.4 IGU LAMINATED