

# Glazing Performance

## Selecting the right glass

### PRODUCT SELECTION CONSIDERATIONS

Glass plays a unique and important role in building design and the environment. It affects design, appearance, thermal performance and comfort. The selection of the right glass is a crucial component of the design process.

There are three main areas to consider:

- **Natural light** - You want to enjoy natural light while controlling UV and glare.
- **Solar heat gain** - Homes benefit from the natural warming effect of solar heat, but you also want to maintain a comfortable temperature.
- **Thermal insulation** - Heat flows relatively easily through ordinary glass. In low winter temperatures, you want to select glass that reduces heat loss, saving on heating costs while reducing greenhouse gases. In high summer temperatures you may want to restrict heat gain to the inside and save on cooling costs.

GLASS TYPE	VISIBLE LIGHT TRANSMISSION %	FADING REDUCTION %	HEAT LOSS REDUCTION %	PERCEIVED SOUND REDUCTION %
<b>Single Glazing</b>				
4mm Clear Float	89%	4%	0%	10%
6.38mm Laminate	89%	55%	3%	35%
<b>Clear Double Glazing (IGU)</b>				
Standard IGU	80%	22%	52%	20%
Clear - Laminate	79%	60%	54%	55%
Argon Gas	80%	22%	56%	20%
Low E	74%	34%	68%	20%
Argon Gas & Low E	74%	35%	72%	20%
<b>Tinted Double Glazing (IGU)</b>				
Grey (Standard)	45%	61%	54%	22%
Bronze (Standard)	53%	58%	54%	22%
Green (Standard)	71%	50%	54%	22%
Arctic Blue (Standard)	50%	57%	54%	22%
Grey (Standard) on Clear Laminate	40%	78%	54%	55%

### GLOSSARY

**Low E** – low-emissivity glass will allow the sun’s heat and light to pass through the glass into the building, but it will prevent the heat from leaving the room. This considerably reduces heat loss and therefore improves the comfort levels in your home. It also helps in summer by reducing solar heat gain.

**Argon Gas** – is a colourless, odourless, non-flammable, non-reactive, inert gas. Argon gas fills are used to reduce heat loss in double glazed units by slowing down convection inside the air space. Argon gas works well with Low E coated glazing.

**IGU** – refers to Insulated Glass Unit.

**Laminate Glass** – is made with plates of plastic or resin typically of polyvinyl butyral between two sheets of glass to prevent shattering.

**Visible Light Transmission** – the percentage of visible light that is transmitted through the glass. This is measured in the 380-780nm wavelength range perpendicular to the surface. The higher the percentage the more daylight.

**Fading Reduction** – ratio of the difference in fading through the glass with reference to glass type. It is expressed as a percentage and is based on 3mm clear float as 0%.

**Heat Loss Reduction** – ratio of the difference in heat loss through the glass with reference to glass type. It is expressed as a percentage and is based on 4mm clear float as 0%.

**Perceived Sound Reduction** – sound reduction in decibels which incorporates a correction for the ear’s response. A 10db increase is perceived as twice as loud whereas a 10db decrease is perceived as half as loud. Base is 3mm clear float.

