

## TECHNICAL BRIEFING

# Essential Guide for Glass Specification

### Introduction

This specification Guide has been designed to provide Architects and Specifiers with a broad range of information relating to glass types, sizes, properties, behaviours and configurations. Due to the variety of issues that are unique to each project, Oceania Glass strongly recommends that prior to commencing your project you contact Oceania Glass or your glazing professional and discuss the unique requirements of your project and the sustainability of individual Oceania Glass products and make-ups in specific applications.

There are various key considerations when designing and determining the appropriate glass for an application. These range from the safety requirements and breakage characteristics of the glass type to the aesthetic or energy performance of the product. Oceania Glass can help you to determine your glass requirements based on your design, although the design requirement and fitness for purpose falls within the task of the designer.

When requesting assistance with glass specification it makes it easier and quicker for Oceania Glass to reply to your request if the appropriate information is supplied. The following lists the relevant information required for the glass determination in line with Australian Standard AS1288-2006 Glass in Buildings – Selection and Installation.

### How To Specify Clauses

Thermal stress develops from a differential expansion within annealed glass caused by heating or cooling of areas of the panel. In a window, the edge of the glass is shielded from sunlight by the frame; thus the covered edge will be cooler than the central area which is exposed to the sun. The expansion of the central area will cause the glass to stretch and yet be resisted by the cooler, covered edges, which will, as a consequence, develop tensile stress. If this stretching of the edges becomes sufficiently large, then the resulting tensile stress will be sufficient to break the glass. This break is termed a thermal fracture.

- Solar control glass may be subject to thermal stress and should therefore be thermally assessed prior to installation.
- Heat soak treatment is a destructive test, which reduces the likelihood of spontaneous breakage by converting impurities such as nickel sulphide inclusions.
- Heat Strengthening – All glass which requires extra strength and thermal resistance will be heat strengthened. Heat strengthening increases the strength of annealed glass, however it is not a substitute for toughened glass. Heat strengthened glass is not a Grade A safety glass.
- In the event of fracturing, heat strengthened glass will crack and tends to remain in glazed position.
- The glass shall comply with the following performance criteria:
  - Visible Light Transmission %
  - U Value
  - Solar Heat Gain Coefficient (SHGC)
- All glass is to be selected and installed in accordance, but not exclusively, with the following Australian and/or New Zealand Standards
  - Australian Standard AS1288 Glass in Buildings Selection and Installation
  - Australian Standard AS1170 Minimum Windloads on Structures
  - AS/NZS2208 Safety Glazing Materials in Buildings
  - AS/NZS4666 Insulating Glass Units
  - AS/NZS4667 Quality Requirements for cut-to-size and Processed Glass

## Glazing Types

### Vertical glazing

- Supply a drawing (elevation and plan)
- Provide windload – ULS & SLS for area under consideration (if the application is external)
- Panel size – Height (mm) x Width (mm)
- Details of how the panel is supported
- Internal or external application

### Roof Glazing

- Supply a drawing
- Provide windload – ULS & SLS for roof cladding (different to that used for vertical cladding)
- Live load – determine from AS1170 pt1. If unsure which load is appropriate then consult the Building Surveyor for advice
- Panel size – distance up slope (mm) x distance across slope (mm)
- Angle of panel measured from the horizontal
- Details of how the panel is supported, four edges or two opposite edges
- Advise if the panel is supported on top of the glass as well as under the glass
- Distance above the floor or ground (metres) to the highest point of the glass

### Fin Glazing

- Supply a drawing
- Provide windload – ULS & SLS
- Panel size – Height (mm) x Width (mm)
- Details of how the panel is supported at top and bottom
- Internal or external application

### Faceted Glazing

- Supply a drawing
- Provide windload – ULS & SLS
- Panel size – Height (mm) x Width (mm)
- Details of how the panel is supported at top and bottom
- Angle between adjacent panels
- Internal or external application

## Balustrade

- Supply a drawing
- Advise difference in level the glass is protecting
- Provide windload – ULS & SLS
- Live load – determine from AS1170 pt1 If unsure which load is appropriate then consult the Building Surveyor for advice
- Panel size – Height (mm) x Width (mm)
- Details of how the panel is supported
- Details of how the handrail is supported
- Internal or external application

## Thermal Assessments

Oceania Glass carries out thermal assessments for its customers, free of charge. Please see our Thermal Stress and Thermal Briefing technical document for more information.

## Other Considerations

- **Renew**  
Renew is a self-cleaning product designed for organic material deposits on glass. It is not effective at breaking down salt deposits or other inorganic materials. It is therefore not recommended for use in coastal or high salinity areas where salt film build up is an issue.
- **Haze**  
Low E coated products exhibit a natural haze characteristic which may be noticeable when the glass is in direct sun or viewed against a dark background. This is not a fault with the glass but simply a characteristic of the Low E coating.

Users should satisfy themselves of the completeness of the information and seek advice where required from an industry professional.

For more information about technical information call **1800 810 403**.

Visit our website for more information at [www.oceaniaglass.com.au](http://www.oceaniaglass.com.au).