

CALCULATION PROCEDURE CP-M04

BARRIERS & GUARDING, FULL-HEIGHT GLAZING

LIMIT STATE DESIGN

All details requested within this form are required for the determination of the suitability of glazing subjected to horizontally imposed loads, specifically barrier loads and climatic loads.

PROJECT DETAILS	
Date	
Project Reference	
Unit Reference	
Enquirer	
Organisation	

DESIGN PARAMETERS												
GLAZING CONFIGURATION	Width (mm)											
	Height (mm)											
	Height from Internal Finished Floor Level (mm)											
	Installation Angle from Horizontal (°)											
	Edge Support											
	Inner Pane											
	Cavity											
	Outer Pane											
LOAD REQUIREMENTS	Line Load (kN/m)											
	Point Load (kN)	<i>Based on Line Load</i>		<i>Characteristic applied loads from occupancy should be determined from EN 1991-1-1, the UK National Annex and PD 6688-1-1.</i>								
	Uniform Infill Load (kN/m²)	<i>Based on Line Load</i>										
	Wind Pressure (kN/m²)											
	Wind Suction (kN/m²)											
	Cavity Loads (Summer)		TRLV	<i>TRLV cavity load climatic conditions are applied to all load cases in the absence of UK requirements.</i>								
	Cavity Loads (Winter)		TRLV									
	Element Type			<i>Details of relevant elements types are detailed at the end of this document.</i>								
	Occupancy (EN 1990)			<i>Occupancy categories should be determined based on EN 1990.</i>								

Comments	
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What Glass Configuration Should I Choose?

Glass configurations should be based on the requirements for the glazing, and would also consider removing residual risk that may result from the fracture of glass. The below matrix can assist with the selection of a suitable glass configuration.

Outer Pane	Monolithic Annealed	Monolithic Annealed	Monolithic Annealed	Heat Soak Toughened	Heat Soak Toughened	Heat Soak Toughened	Laminated	Laminated	Laminated
Inner Pane	Monolithic Annealed	Heat Soak Toughened	Laminated	Monolithic Annealed	Heat Soak Toughened	Laminated	Monolithic Annealed	Heat Soak Toughened	Laminated
Glazing in Critical Location	✗	✗	✓	✗	✓	✓	✗	✓	✓
Residual Containment Required	✗	✗	✓	✗	✗	✓	✗	✓	✓
Negate Risk of Glass Falling from Height	✗	✗	✗	✗	✗	✗	✓	✓	✓
Security Requirement	✗	✗	✓	✗	✗	✓	✓	✓	✓
External Access for Maintenance & Cleaning	✗	✗	✗	✓	✓	✓	✓	✓	✓

What Element Type Is Applicable for This Assessment?

The element types are based on IStructE guidance, and are described as below. For full-height glazing, glazing would typically be considered a Secondary Structure, as it protects occupants from a fall and is within a defined frame.

Element Option	Element Description	Examples of Elements
Primary Structure	Element acting as the only element to resist applied loads, or an element supporting secondary structures or infill panels.	Free-Standing Glass Barriers acting as guarding and glass Fins.
Secondary Structure	Element that protects occupants from a fall, but within a defined frame.	Full-height glazing, partitions & balustrade infill panels acting as guarding.
Infill Panel	An element that performs no safety critical function, and is subjected only to climatic and environmental loads.	Windows, spandrel panels and full-height glazing not acting as guarding.
Low Risk Infill Panel	An element that serves solely to direct occupants, with no risk of injury in the event of failure.	Partitions and internal glazing not acting as guarding.