BRITAL
ALUMINIUM FACADE DESIGNS

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HANDRAILS AND BALUSTRADES SPECIFICATION

Introduction

The Brital handrail/balustrade system is primarily designed for use with laminated glass infill to provide an architecturally light but robust balustrade system. The Brital aluminium handrail sections are from extruded aluminium and are available as either a one piece or two piece extruded section.

The cill channel section is formed from a robust extruded aluminium channel section, which can be either cast into the concrete or screw fixed onto the top surface of the concrete.

The handrail sections are supported at the ends by means of circular stainless steel plates, which are screw fixed to the handrail and the adjacent structure. Intermediate fixing can be provided by posts (supplied by fabricators), which are fixed to the top of the concrete and then secured to the handrail via a purpose extruded plate.

Materials

All aluminium extrusions are manufactured from 6063 T6 aluminium alloy extruded to BS EN 12020-2 : 2008 / BS EN 755-9 : 2008

Finishes

Balustrade sections can be finished in a number of finishes:

The range of sections can be provided in either of the following range of finishes:

1. Anodised to BS 1615 or BS 3987 (Natural or Coloured)
2. Powder organic coated to BS 6496

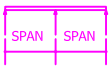
Subject to Brital approval other finishes may also be used.

When selecting finishes care should be taken to consider the possible effects of wear on the aluminium components.

Design

The handrails are designed to resist loads in accordance with BS6180 and are designed to the following deflection limits:

Max deflection = SPAN/125 but not more than 25 mm

Condition	Load (kN/m run at 1100mm above Finish floor level	Maximum Span (m) 2 fixings/ Handrail 	Maximum Span (m) >2 fixings/ Handrail 
Residental/Commercial (No Risk of overcrowding)	0.74	2.40	3.1
Commercial Risk of Moderate overcrowding	1.50	2.00	2.6
Public Assembly Risk of Serious overcrowding	Consult BRITAL technical Department		

Cantilever Glass Balustrades

The cill channel is not designed to be used to support a cantilevered glass balustrade, however the handrail can be used provided that the handrail is not entirely dependent on any single pane of glass for support. Where such balustrades are designed specialist advice should be sought.

Glass/ Glazing

The Brital Balustrade sections are designed to accommodate glass up to 20 mm thick. The selection of the glass will be the responsibility of the fabricator in conjunction with their glass supplier.

Brital suggest that laminated glass is preferable for use in balustrades since even when broken it will offer a level of protection other glasses do not.

The glazing is held in place via packing shims between the glass and aluminium and silicone bedding between the glass and aluminium. Wherever the balustrade is used the cover between the glazing and aluminium sections should not be less than 15 mm.

Local Regulations

The guidance given in this document is general and fabricators should be aware that local regulations may differ and should be prepared to work to local regulations if more onerous.

Structural Design

The structural design of support posts and their fixings are the responsibility of the fabricator who should be aware of the high loads that can develop at the base plates of these components.

Development

Brital have a policy of continuing development and will amend and alter designs as necessary to meet changes in regulations and market requirements.

Where large quantities of non-standard extruded sections are required to a specific design this should be discussed with Brital's technical department