



**BLACKBURNS**  
METALS LIMITED



**PRO-RAILING<sup>®</sup>**

*The Stainless Steel Handrail Component System*

- RANGE OF GLASS PANELS
- ON - SITE ASSEMBLY
- FAST NATIONWIDE DELIVERY
- ANY QUANTITY SUPPLIED
- COMPETITIVE PRICES
- AVAILABLE FROM STOCK



# PRO-RAILING®

## The Stainless Steel Handrail Component System

**Pro-Railing** is a stylish, durable and cost effective stainless steel handrailing component system designed with ease of installation in mind.

The comprehensive range of components allows you to specify and install without the need for fabrication and maximises on-site flexibility for those changes that inevitably arise.

The system enables the most stylish of handrailing and balustrades to be constructed quickly and simply by the contractor. All you have to do is cut, glue or screw to create professional results every time.

Specifiers can be assured that component design and range flexibility means installation by a competent installer is a straight forward process.

We offer a range of infill solutions using glass with glass clamps, wire rope, round bar and decorative bars. We can also manufacture infill panels incorporating perforated metal, wire mesh and wire rope netting.

Available in Type 304 and Type 316 to suit internal and external applications, you can be sure Pro-Railing quality and product care will ensure stunning results.

### Take a look at what we have to offer:

#### From Stock Nationally

Delivery within 24 hours.

#### Ease of Installation

A competent installer will be able to install our component handrail system safely and efficiently.

#### Technical Support

When you need it and where you need it, on the phone, on line and on-site.

#### Pro The Mark of Quality

Product testing and 2mm tube wall thickness as standard ensures you peace of mind.

#### Specify with Confidence

Advisory service on best practice design, drawings and drawing requirements including loading information.

#### Specials without Delays

Drilling, welding, bending and pre-assembled components can be supplied within days.

#### Glass Supplied

We offer what you want, where you want it.








#### Flexibility in Design

The extensive range of components maximises on-site flexibility and minimises delays.



All fittings are Stainless unless otherwise stated  
All tube is 2mm wall thickness unless otherwise stated  
Satin Polish finish is 320 Grit and Mirror Finish is 800 Grit

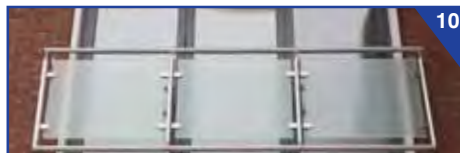
#### Pro-Railing Colour Guide

	Grade 304 stainless steel (internal)		Mild steel
	Grade 316 stainless steel (external)		Galvanised steel
	Zinc coated steel		Aluminium
	Zamac (zinc aluminium alloy)		

#### Disclaimer:

We wish to make clear that the dimensions and illustrations in this catalogue are for guidance purposes only and that there may be slight differences in the product actually supplied. We wish to make clear that we will not accept liability, on whatever legal grounds, for the way the product is used. No product will be accepted back unless it is unused, unmarked and in its original packaging. Following satisfactory inspection, all returns are subject to a 20% re-stocking charge. This does not affect your statutory rights.





<b>Accessories</b>	Adhesives	52
	Allen Key	52
	Cleaning Supplies	52
	Sealant	52
	Threaded Lengths	52
<b>Balustrade Infills</b>	Expanded Metal	40
	Fittings	40 - 41
	Perforated Metal	40
	Split Tube	41
	Welded Wire Mesh	40
<b>Bar System</b>	Bars	19 - 20
	Fittings	19
	Tube	19
<b>Fittings</b>	Baluster Brackets	9
	End Caps	9, 44 - 45, 47
	Flange and Base Plates	8, 46
	Mirror Polished	16
	Tube	6 - 7
	<b>Fixings</b>	Bolts
	Chemical Fixings	53
	Drill Bits	55
	Mesh Sleeve	53
	Nuts	54
	Rivets	53
	Screws	54
	Tools	53
	Washers	54
<b>Forged Polished Stainless - Weldable</b>	Balusters	50
	Handrails	51
	Handrail Ends	51
	Newel Posts	50
	Plates	51
	Post Tops	51
	Spheres	51
<b>Gate Hardware</b>	Hinges	49
	Latch and Catch	49
	Weldable Hinges	49



<b>Glass Clamp System</b>	Coloured Glass Clamps	16
	Fixing Information	10
	Glass Clamps	11 - 13
	Glass Connectors & Adaptors	14
	Loading Table	11
	Weldable Glass Clamps	17 - 18
<b>Handrail Brackets</b>	Adjustable Height, Fixed Spigot	4
	Bracket Plate	4
	Fixed Spigot	4
	Single Wall Mount	4
	Tubular	48
	Weldable	4, 48
<b>Juliette Balcony</b>		14
<b>Lumenrail®</b>	Components	35 - 37
	Introduction	30
	Lighting Details	33
	Post Mounting Guide	34
	Post Mounting Wiring	32
	Split Tube	37
	Technical Specifications	31
<b>Frameless Glass Balustrade</b>	PanelGrip™ Balustrade System	21 - 22
	PanelWedge Balustrade System	23 - 24
<b>Pre - Assembled Handrails</b>		43
<b>Pre - Assembled Posts</b>	7 Hole Post	15
	Corner Post	15
	End Post	15
	Mid Post	15
<b>Pro Glass</b>	Introduction	27
	Non-Standard Panels	29
	Standard Panels	28
<b>Railing Saddles</b>	Adjustable Spigot	5, 47
	Fixed Saddle	5
	Fixed Spigot	5, 47
	Assembly Guide	25
<b>Split Tube Fittings</b>	Fittings	26, 35 - 36
	Tube	26, 37, 41 - 42

<b>Technicals</b>	Approach to Buildings Other than Dwellings	59
	Cleaning Intervals	57
	Cleaning Methods	58
	Glass Clamp System BS EN 12600 Loading Table	11
	Glass Fixing Information	10
	Handrails and Guardrails	60
	Lumenrail®	30 - 34
	Minimum Horizontal Loads for Balustrades	61
	PanelGrip™ Installation Guide	21
	PanelWedge Installation Guide	23
Product Selection	56	
Split Tube Assembly Guide	25	
Standards Relevant for Surface Finish - BS 1449	56	
<b>Tube and Bar</b>	Hollow	42
	Solid	42
	Split	42
	Zinc Plated	42, 47
<b>Wire Rope System</b>	Components	38 - 39
	Tools	39
	Wire Rope	39
<b>Wooden Handrail System</b>	Ø 45mm Fittings	44
	Ø 48.3mm Fittings	45
	Hardwood Handrail	45
	Introduction	43
	Softwood Handrail	44
	Crossbar System	47
<b>Zinc Plated Mild Steel Handrail</b>	Flanges and Base Plates	46
	Handrail Saddles	47
	Handrail Brackets	48
	Tube & Bar	47



## Adjustable Height - Fixed Spigot

Flat/Tube



Code	Ø mm
1804301FC	42.4
1804301FD	48.3
1806301FC	42.4
1806301FD	48.3

65mm distance from flat to centre of bracket

Tube/Tube



Code	Ø mm
1804301CC	42.4
1804301DD	48.3
1806301CC	42.4
1806301DD	48.3

65mm distance from tube to centre of bracket

Wall/Tube



Code	Ø mm
1804303FC	42.4
1804303FD	48.3
1806303FC	42.4
1806303FD	48.3

68mm distance from wall to centre of bracket

Glass/Tube



Code	Ø mm
1804333FC	42.4
1804333FD	48.3
1806333FC	42.4
1806333FD	48.3

69mm distance from glass to centre of bracket

Glass thickness for 333's is 20mm. For thicker glass longer threaded lengths can be purchased

## Fixed Spigot

Wall/Tube



Code	Ø mm
1804305FC	42.4
1804305FD	48.3
1806305FC	42.4
1806305FD	48.3

63.5mm distance from wall to centre of bracket

Wall/Tube



Code	Ø mm
1804305FCB	42.4
1804305FDB	48.3
1806305FCB	42.4
1806305FDB	48.3

80mm distance from wall to centre of bracket

Wall/Flat



Code
1804305FF

63.5mm distance from wall to centre of bracket



Example of Glass Fix, Adjustable Height and Fixed Spigot

## Single Wall Mount

Wall/Tube



Code	Ø mm
1804315FC	42.4
1804315FD	48.3
1806315FC	42.4
1806315FD	48.3

72mm distance from wall to centre of bracket. Supplied with 8mm screw thread for wall fixing

## Satin Polish Weldable Handrail Bracket and Cover Plate



Code
171166

78mm distance from wall to centre of bracket

171169
--------

86mm distance from wall to centre of bracket

## Handrail Bracket Plate and Rubbers to Suit Glass Balustrading



Code	Ø mm	Glass mm
1804358G	50	8 - 19
1806358G	50	8 - 19

8mm thread

Tops come with 5mm clearance holes. For fixing screws, see page 5.

304 Internal

316 External

Zinc

## Fixed Spigot

Flat/Tube



Code	Ø mm
1804307FC	42.4
1804307FD	48.3
1806307FC	42.4
1806307FD	48.3

Height 60mm. Also available in heights of 71, 83 and 95mm

## Fixed Spigot

Tube/Tube



Code	Ø mm
1804310CC	42.4
1804310DD	48.3
1806310CC	42.4
1806310DD	48.3

## Fixed Spigot

90° Tube/Tube



Code	Ø mm
1804311CC	42.4
1804311DD	48.3
1806311CC	42.4
1806311DD	48.3

For 202 type elbows used with handrails

## Adjustable Spigot

Tube/Tube



Code	Ø mm
1804312CC	42.4
1804312DD	48.3
1806312CC	42.4
1806312DD	48.3

## FIXED SADDLE

### 90° Round Corner Top



Code	Ø mm
1804356C	42.4
1804356D	48.3
1806356C	42.4
1806356D	48.3

For 202 type elbows used with handrails

### 135° Round Corner Top



Code	Ø mm
1804354C	42.4
1804354D	48.3
1806354C	42.4
1806354D	48.3

For 220 type elbows used with handrails

### 135° Flat Corner Top



Code
1804354F
1806354F

### 90° Flat Corner Top



Code
1804356F
1806356F

### Round Top



Code	Ø mm
1804351C	42.4
1804351D	48.3
1806351C	42.4
1806351D	48.3

### Flat Top



Code
1804351F
1806351F

### Countersunk Fixing



### Pan Head Fixing



There are 2 types of fixings available for Handrail Brackets and Saddles to tube.  
 Countersunk screw (5 x 20mm) - **Code: 189900619**  
 (For Flat Saddles)  
 Pan head screw - **Code: 189900620**  
 (For Ø 42.4 and 48.3mm Saddles)  
 See page 54 for our range of fixings.

Fixed Saddles require an 8mm bolt to secure, Code: 189900604. See page 54.

All fittings detailed in the stainless steel section of this catalogue can be supplied in a mirror finish.

Tops come with 5mm clearance holes. For fixing screws, see above.

Aluminium

Mild steel

Galvanised steel





**PanelGrip®**



SEE PAGE 21.

**Lumenrail®**



SEE PAGE 30.

**Wire Rope**



SEE PAGE 38.

**Glass Clamps**



SEE PAGE 10.

**Wooden Handrail**



SEE PAGE 43.

**Rod and Bar**



SEE PAGE 19.

**TUBE FITTINGS**



**2 Way Adjustable Flush Angle**

**NEW**



Code	Ø mm
1804223C	42.4
1804223D	48.3
1806223C	42.4
1806223D	48.3

**3 Way Adjustable Flush Angle**

**NEW**



Code	Ø mm
1804224C	42.4
1804224D	48.3
1806224C	42.4
1806224D	48.3

304 Internal

316 External

Zinc

**90° Elbow, Radiused Corner**



Code	Ø mm
1804200C	42.4
1804200D	48.3
1806200C	42.4
1806200D	48.3

**90° Elbow, Round Corner**



Code	Ø mm
1804201C	42.4
1804201D	48.3
1806201C	42.4
1806201D	48.3

**90° Elbow, Square Corner**



Code	Ø mm
1804202C	42.4
1804202D	48.3
1806202C	42.4
1806202D	48.3

**135° Elbow**



Code	Ø mm
1804220C	42.4
1804220D	48.3
1806220C	42.4
1806220D	48.3

**3 Way Corner**



Code	Ø mm
1804204C	42.4
1804204D	48.3
1806204C	42.4
1806204D	48.3

**Long Tee**



Code	Ø mm
1804205C	42.4
1804205D	48.3
1806205C	42.4
1806205D	48.3

**4 Way Cross**



Code	Ø mm
1804222C	42.4
1804222D	48.3
1806222C	42.4
1806222D	48.3

**Stainless Weldable Elbow**



Code	Ø mm
1804E42	42.4
1804E48	48.3
1806E42	42.4
1806E48	48.3

**Adjustable Elbow**



Code	Ø mm
1804203C	42.4
1804203D	48.3
1806203C	42.4
1806203D	48.3

**Adjustable Elbow - Smooth**



Code	Ø mm
1804227C	42.4
1804227D	48.3
1806227C	42.4
1806227D	48.3

**Rotating Elbow**



Code	Ø mm
1804233C	42.4
1804233D	48.3
1806233C	42.4
1806233D	48.3

**Scroll End**



Code	Ø mm
1804221C	42.4
1804221D	48.3
1806221C	42.4
1806221D	48.3

**Tube Adaptor**



Code	Ø mm
1804313CC	42.4
1804313DD	48.3
1806313CC	42.4
1806313DD	48.3

**In Line Connector**



Code	Ø mm
1804206C	42.4
1804206D	48.3
1806206C	42.4
1806206D	48.3

**Fixing Bracket - Single**



Code	Ø mm
1804511C	42.4
1804511D	48.3
1806511C	42.4
1806511D	48.3

**Fixing Bracket - Double**



Code	Ø mm
1804512C	42.4
1804512D	48.3
1806512C	42.4
1806512D	48.3

Aluminium

Mild steel

Galvanised steel

**External Round Tube Flange**



Code	Ø mm
1804209C	42.4
1804209D	48.3
1806209C	42.4
1806209D	48.3

**Square Edge Tube Flange**



Code	Ø mm
1804210C	42.4
1804210D	48.3
1806210C	42.4
1806210D	48.3

**Weldable Round Wall Flange**



Code	Ø mm
1804217C	42.4
1804217D	48.3
1806217C	42.4
1806217D	48.3

**Cover Plate to Suit 217**



Code	Ø mm
1804218C	42.4
1804218D	48.3
1806218C	42.4
1806218D	48.3

**Internal Fit Floor Base**



Code	Ø mm
1804225C	42.4
1804225D	48.3
1806225C	42.4
1806225D	48.3

**Weld on Round Base Plate with 'O' Ring and Cover**



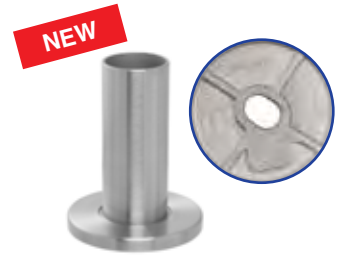
Code	Ø mm
1804228C	42.4
1804228D	48.3
1806228C	42.4
1806228D	48.3

**3 Part Hammer and Glue Fit**



Code	Ø mm
1804211C	42.4
1804211D	48.3
1806211C	42.4
1806211D	48.3

**Internal Fit Tube Flange**



Code	Ø mm
1804237C	42.4
1804237D	48.3
1806237C	42.4
1806237D	48.3

No cover plate required

**Adjustable Elbow Tube Flange**



Code	Ø mm
1804229C	42.4
1804229D	48.3
1806229C	42.4
1806229D	48.3

**Internal Fit Tube Flange**



Code	Ø mm
1804235C	42.4
1804235D	48.3
1806235C	42.4
1806235D	48.3

**Weld on Round Base Plate**



Code	Ø mm
1804207C	42.4
1804207D	48.3
1806207C	42.4
1806207D	48.3

**Cover Plate**



Code	Ø mm
1804208C	42.4
1804208D	48.3
1806208C	42.4
1806208D	48.3

To suit 207

**Glass Support Spigot**



Code	Glass mm
1804230	10 - 12
1806230	10 - 12

Not recommended for use where drop is greater than 600mm

**Glass Support Spigot with Base**



Code	Glass mm
1804231	10 - 12
1806231	10 - 12

**Through Stair Fixing Kit**



Code	Glass mm
1804232C	42.4
1804232D	48.3

Maximum tread thickness is 40mm. For thicker treads longer threaded lengths can be purchased

Code	Ø mm
1804226C	42.4
1804226D	48.3
1806226C	42.4
1806226D	48.3

To suit 225

Code	Ø mm
1804236C	42.4
1804236D	48.3
1806236C	42.4
1806236D	48.3

To suit 235

16mm stud required, see page 53

304 Internal

316 External

Zinc



2 Hole Round



Code	Ø mm
1804212C	42.4
1804212D	48.3
1806212C	42.4
1806212D	48.3

2 Hole Round with Tube Support Spigot



Code	Ø mm
1804219C	42.4
1804219D	48.3
1806219C	42.4
1806219D	48.3

4 Hole Round



Code	Ø mm
1804242C	42.4
1804242D	48.3
1806242C	42.4
1806242D	48.3

4 Hole Round with Tube Support Spigot



Code	Ø mm
1804249C	42.4
1804249D	48.3
1806249C	42.4
1806249D	48.3

4 Hole Round Baluster Backing Plate



Code
1804254
1806254

Suitable for Ø 42.4 and Ø 48.3mm

Tube Clamp



Code	Ø mm
1804252C	42.4
1804252D	48.3
1806252C	42.4
1806252D	48.3

Tube Support Spigot



Code	Ø mm
1804259C	42.4
1804259D	48.3
1806259C	42.4
1806259D	48.3

Rectangular Back



Code	Ø mm
1804213C	42.4
1804213D	48.3
1806213C	42.4
1806213D	48.3

Rectangular Back 2 Part Type



Code	Ø mm
1804213CX	42.4
1804213DX	48.3
1806213CX	42.4
1806213DX	48.3

Adjustable Corner - Internal / External



Code	Ø mm
1804253C	42.4
1804253D	48.3
1806253C	42.4
1806253D	48.3

## END CAPS

Flat Top



Code	Ø mm
1804214C	42.4
1804214D	48.3
1806214C	42.4
1806214D	48.3

Raised Top



Code	Ø mm
1804215C	42.4
1804215D	48.3
1806215C	42.4
1806215D	48.3

Dome Top



Code	Ø mm
1804216C	42.4
1804216D	48.3
1806216C	42.4
1806216D	48.3

Raised Top - Hammer Fit



Code	Ø mm
1804215CP	42.4
1804215DP	48.3
1806215CP	42.4
1806215DP	48.3

Aluminium

Mild steel

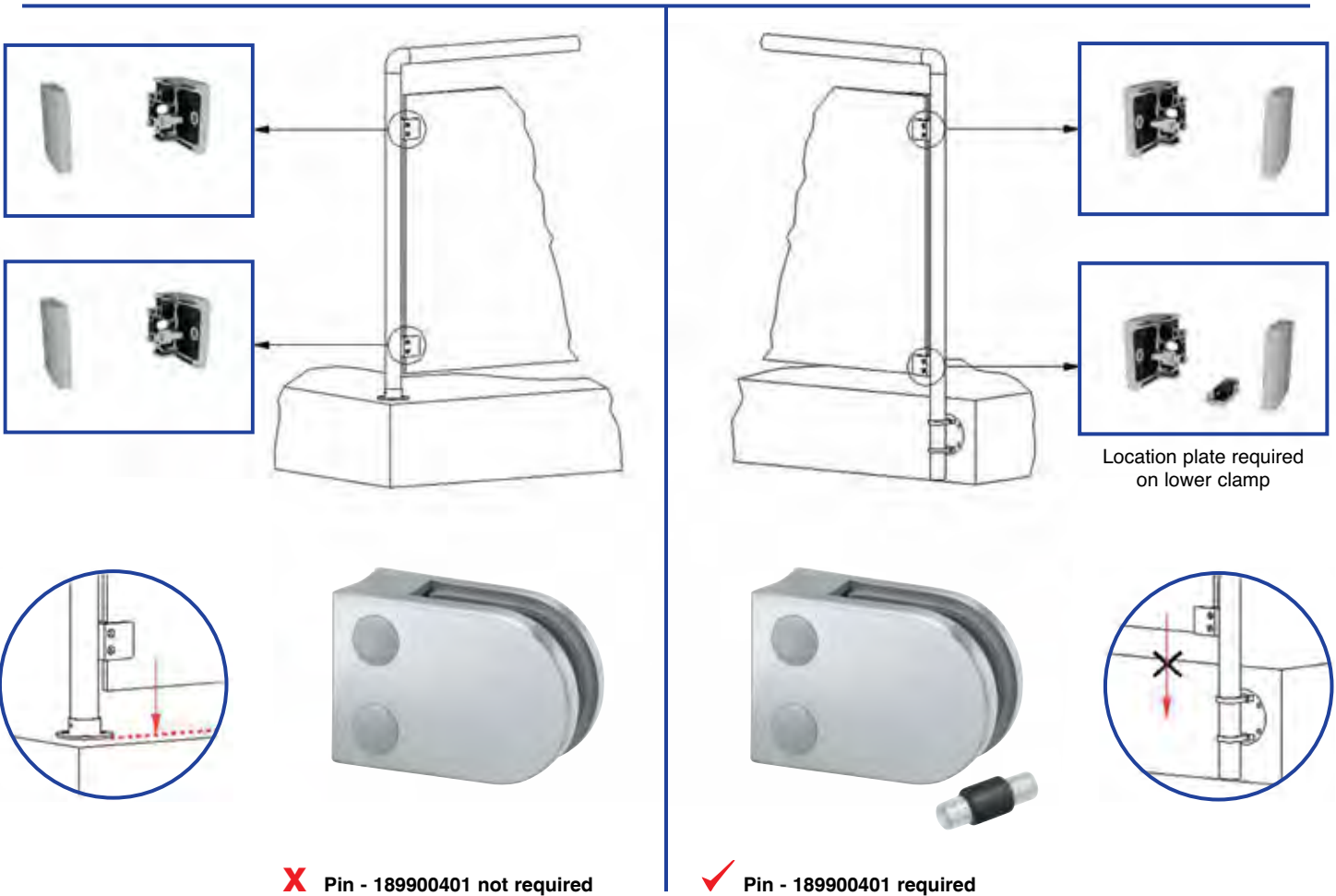
Galvanised steel

The most popular method for providing a glazed balustrade, while at the same time keeping the outlook open and views beyond visible. Glass Clamps are simple to install and are offered in either a square or radiused option, providing a glazed system between posts. Compatible with 8 to 12mm thick glass, clamps can be used over any length of installation as well as slopes and staircases.

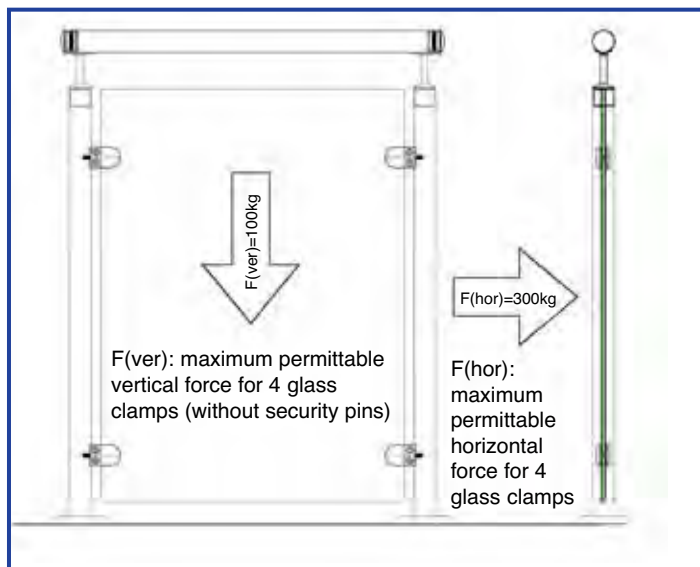
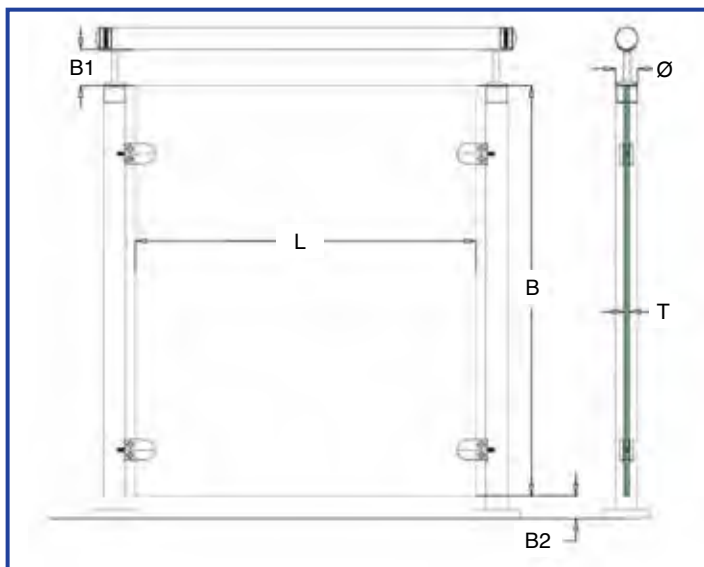


## GLASS FIXING INFORMATION

If using glass clamps in any installation where the glass is fixed to the outside of a staircase and overhanging, then security pins (189900401) and drilled glass must be used. Alternatively use our square glass clamps which come with a bottom location plate, so no drilling is required.



Extract from BS EN 12600 Loading Tables;



Dimensions	Min.	Max.
L - Width of Glass	500mm	See Table Below
T - Glass Thickness	See Table Below	See Table Below
B - Height of Glass	800mm	1 metre
B1 - Distance - Handrail to Glass	10mm	50mm without edge protection 120mm with edge protection
B2 - Distance - Bottom to Glass	10mm	50mm without edge protection 120mm with edge protection



Code Group	Style	Fix Type Ø mm	Glass Clamp Size L x W x D mm	Glass Thickness mm	Glass Width mm
401		<ul style="list-style-type: none"> <li>• 42.4</li> <li>• 48.3</li> <li>• Flat</li> </ul>	63 x 45 x 28	8*, 10 & 12*	1500
4012		<ul style="list-style-type: none"> <li>• 42.4</li> <li>• 48.3</li> <li>• Flat</li> </ul>	67 x 45 x 32	12	1500
440		<ul style="list-style-type: none"> <li>• Flat</li> </ul>	60 x 70 x 41	15, 17.5*, 19* & 21.5*	1500
402		<ul style="list-style-type: none"> <li>• 42.4</li> <li>• 48.3</li> <li>• Flat</li> </ul>	60 x 55 x 35	8*, 10 & 12*	1500
403		<ul style="list-style-type: none"> <li>• 42.4</li> <li>• 48.3</li> <li>• Flat</li> </ul>	Ø 60 x 28	8*, 10 & 12*	1500

\*Requires special glass rubbers, see pages 12 - 13



**Satin Polish Effect  
Small Glass Clamp  
Flat Back - Round Front**

**NEW**

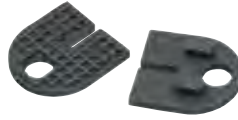


Code	Glass mm
<b>1806400F</b>	6 - 8

Not suitable for handrailing applications. Typical uses are for display and shelving. Supplied with 8mm rubbers. 6mm available to order, **Code: 1899001S06**

**Small 'D' Rubbers**

**NEW**



Code	Glass mm
<b>1899001S06</b>	6
<b>1899001S08</b>	8

**Satin Polish Effect  
Stamped Glass Clamp  
Flat Back - Round Front**

**NEW**



Code	Glass mm
<b>1806441F</b>	10

Not suitable for handrailing applications. Typical uses are for display and shelving. Supplied with 10mm rubber

**Satin Polish Effect  
Flat Back - Round Front**



Code	Glass mm
<b>1802401F</b>	8 - 10
<b>18024012F</b>	12
<b>1804401F</b>	8 - 12
<b>1806401F</b>	8 - 12

Clamps supplied with 10mm rubbers. Order 8 or 12mm if required using separate codes, please refer to 'D' Rubbers

**Satin Polish Effect  
Round Back - Round Front**



Code	Glass mm	Ø mm
<b>1802401C</b>	8 - 10	42.4
<b>18024012C</b>	12	42.4
<b>1802401D</b>	8 - 10	48.3
<b>18024012D</b>	12	48.3
<b>1804401C</b>	8 - 12	42.4
<b>1804401D</b>	8 - 12	48.3
<b>1806401C</b>	8 - 12	42.4
<b>1806401D</b>	8 - 12	48.3

Clamps supplied with 10mm rubbers. Order 8 or 12mm if required using separate codes, please refer to 'D' Rubbers

**Raw Finish  
Round/Flat Back - Round Front**



Code	Glass mm	Ø mm
<b>1802401CZ</b>	8 - 10	42.4
<b>1802401DZ</b>	8 - 10	48.3
<b>1802401FZ</b>	8 - 10	-

Clamps supplied with 10mm rubbers. Order 8mm if required using separate code, please refer to 'D' Rubbers. Suitable for powder coating

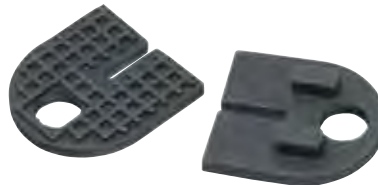
**Chrome Effect  
Round/Flat Back - Round Front**



Code	Glass mm	Ø mm
<b>1802401CP</b>	8 - 10	42.4
<b>1802401DP</b>	8 - 10	48.3
<b>1802401FP</b>	8 - 10	Flat

Clamps supplied with 10mm rubbers. Order 8mm if required using separate code, please refer to 'D' Rubbers

**'D' Rubbers**



Code	Glass mm
<b>189900108</b>	8
<b>189900110</b>	10
<b>189900112</b>	12

**FOR OUR FULL RANGE OF WELDABLE GLASS CLAMPS, SEE PAGES 17 - 18.**

304 Internal

316 External

Zamac

## Satin Polish Effect Flat Back - Square Front



Code	Glass mm
1802402F	8 - 12
1804402F	8 - 12
1806402F	8 - 12

Clamps supplied with 10mm rubbers.  
Order 8 or 12mm if required using separate codes, please refer to Square Rubbers

## Satin Polish Effect Round Back - Square Front



Code	Glass mm	Fix Type Ø mm
1802402C	8 - 12	42.4
1802402D	8 - 12	48.3
1804402C	8 - 12	42.4
1804402D	8 - 12	48.3
1806402C	8 - 12	42.4
1806402D	8 - 12	48.3

Clamps supplied with 10mm rubbers.  
Order 8 or 12mm if required using separate codes, please refer to Square Rubbers

## Square Rubbers



Code	Glass mm
189900208	8
189900210	10
189900212	12

## Satin Polish Effect 180° Double Glass Clamp



Code	Glass mm
1804401180	8 - 12
1806401180	8 - 12

Clamps supplied with 10mm rubbers.  
Order 8 or 12mm if required using separate codes, please refer to 'D' Rubbers

## Satin Polish Effect 90° Double Glass Clamp



Code	Glass mm
180440190	8 - 12
180640190	8 - 12

Clamps supplied with 10mm rubbers.  
Order 8 or 12mm if required using separate codes, please refer to 'D' Rubbers

## Satin Polish Effect Large Glass Clamp Flat Back - Round Front



Code	Glass mm
1806440F	15 - 21.5

Clamps supplied with 15mm rubbers.  
Order 17.5, 19 or 21.5mm if required using separate codes, please refer to Large 'D' Rubbers

**FOR VARIABLE FIXING  
BOLT CODE: 189900602A,  
SEE PAGE 54.**

## Large 'D' Rubbers



Code	Glass mm
1899001L15	15
1899001L175	17.5
1899001L19	19
1899001L215	21.5

## Plastic Screw Cover Caps



Code	Colour
189900501	Grey
189900502	Silver

## Metal Security Pins For Glass



Code	Glass mm
189900401	8 - 10
189900402	12

Aluminium

Mild steel

Galvanised steel

## In Line Glass Connector

Satin Polish  
Flat Back



Satin Polish  
Round Back



In Line Rubbers



Code	Glass mm
1806403F	8 - 12

Connectors supplied with 10mm rubbers. Order 8 or 12mm if required using separate codes, please refer to Fitting Rubbers

Code	Ø mm
1806403C	42.4
1806403D	48.3

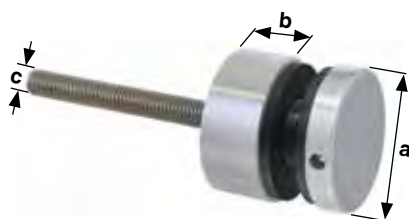
Glass 8 - 12mm

Connectors supplied with 10mm rubbers. Order 8 or 12mm if required using separate codes, please refer to Fitting Rubbers

Code	Glass mm
189900308	8
189900310	10
189900312	12

## Glass Stand-Off Adaptor

Flat Back



Round Back



Code	Fix Type Ø mm	a mm	b mm	c mm	Glass mm	Glass Hole Ø mm
1802404F	Flat	30	15	8	6 - 12	15
1802404C	42.4	30	15	8	6 - 12	15
1802404D	48.3	30	15	8	6 - 12	15
1804454F	Flat	50	10	10	8 - 19	22
1804454C	42.4	50	10	10	8 - 19	22
1804454D	48.3	50	10	10	8 - 19	22
1806404F	Flat	30	15	8	6 - 12	15
1806454F	Flat	50	10	10	8 - 19	22
1806455	Flat	50	20	10	8 - 19	22
1806456	Flat	50	30	10	8 - 19	22
1806458	Flat	50	50	10	8 - 19	22
1806404C	42.4	30	15	8	6 - 12	15
1806454C	48.3	50	10	10	8 - 19	22
1806404D	48.3	30	15	8	6 - 12	15
1806454D	48.3	50	10	10	8 - 19	22

## JULIETTE BALCONY DOUBLE DOOR KIT



FOR OUR FULL RANGE  
OF GLASS PANELS,  
SEE PAGES 28-29.

Code	Ø mm	Max Opening m
1806812D	48.3	2.3

Not supplied with glass. If glass is required please order Code: 1855101100925 x 2

304 Internal

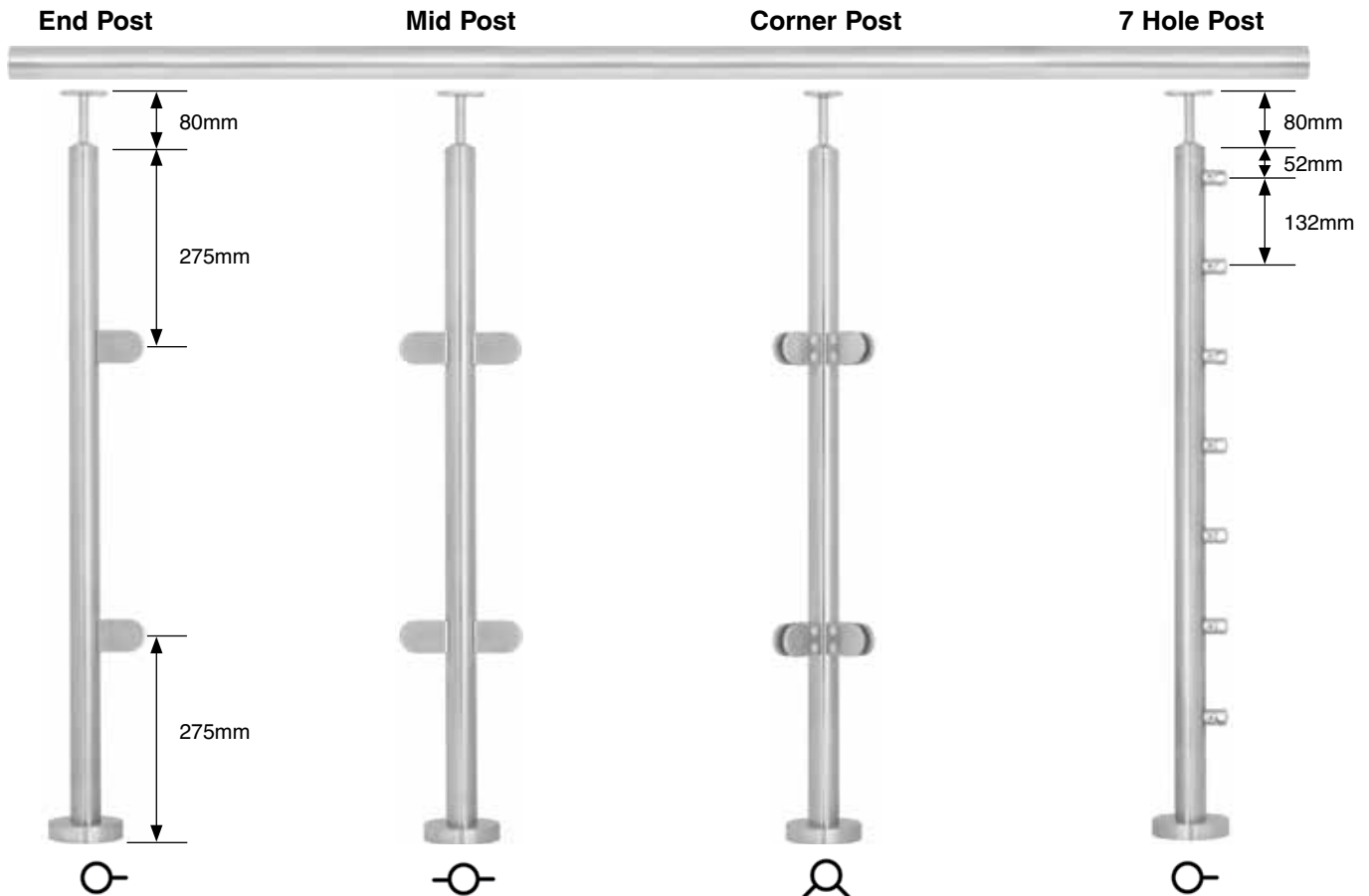
316 External

Zamac



**A range of pre-assembled posts designed to cut installation times**

- All stainless posts are satin polished
- Tested to 1.5kN with a welded base fitting
- Designed to give 1100mm handrail height when installed with our components on flat surfaces
- Welded base fitting with cover plate & rubber 'O' ring to secure cover plate
- Adjustable spigot for flat or raked applications
- Post with glass clamps are ready to accept 10mm glass. 8mm rubbers available
- We sell glass from stock to suit 1200mm post centres
- Additional rubbers for different glass thickness available to purchase if required
- Special 5° variable fixing bolt to allow flexibility of alignment when fixing glass
- 7 hole post fitted with 12mm bar/tube holders



Code	Ø mm
1804731C	42.4
1804731D	48.3
1806731C	42.4
1806731D	48.3

Code	Ø mm
1804732C	42.4
1804732D	48.3
1806732C	42.4
1806732D	48.3

Code	Ø mm
1804733C	42.4
1804733D	48.3
1806733C	42.4
1806733D	48.3

Code	Ø mm
1804737C	42.4
1804737D	48.3
1806737C	42.4
1806737D	48.3

**ALL POSTS FOR GLASS CLAMPS HAVE:**



Welded Base Fitting complete with Rubber 'O' Ring + Cover



Adjustable Spigot



Glass Clamp (for 10mm Glass)



Variable Fixing Bolt

Aluminium

Mild steel

Galvanised steel

## COLOURED GLASS CLAMPS

PRO

To blend in and co-ordinate with interior designs, glass clamps can be supplied in any RAL colour or alternative finish you require.

Grey



Brass



Chrome



Stainless Effect



Blue



Red



Green



Black



## MIRROR POLISHED FITTINGS

All fittings detailed in the stainless steel section of this catalogue can be supplied in a mirror finish 800 Grit.

Adjustable Elbows



Base Flanges



Fixed Elbows



Glass Clamps



Handrail Brackets



Handrail Saddles



Scroll Ends



Tube Fittings



304 Internal

316 External

Zinc

An economic alternative to the traditional glass clamp system. They not only look good, but are easy to install with no on-site fixing and if required the mild steel clamps can be galvanised after fabrication and powder coated.



**Short Single**



**Long Single**



**Straight Double**



Code	Size mm
1801405F	80 x 40 x 6
1801407F*	80 x 40 x 6
1806405F	80 x 40 x 6

\*With stainless steel discs

Code	Size mm
1801406F	120 x 40 x 6
1801408F*	120 x 40 x 6
1806406F	120 x 40 x 6

\*With stainless steel discs

Code	Size mm
1801409F	160 x 40 x 6
1806409F	160 x 40 x 6

**Internal Corner**



**External Corner**



Code	Size mm
1801409IC	80 x 80 x 40 x 6
1806409IC	80 x 80 x 40 x 6

Code	Size mm
1801409EC	80 x 80 x 40 x 6
1806409EC	80 x 80 x 40 x 6

**Specification:**

- 316 Dome Nut
- Rubber Washer
- 6mm Plate + Disc
- Suits 8 - 10mm Thick Glass
- Mild Steel + Stainless Steel
- Countersunk Stainless 316 8mm Bolt

**Additional Accessories:**

**Code: 1899405NS**  
Nylon Spacer

**Code: 1899405RD**  
Round Disc (S/S 316)

**Code: 1899405RI**  
Rubber Inlay

**Code: 1899405TA**  
Threaded Assembly (S/S 316)  
(Includes bolt and hex dome nut)



Aluminium

Mild steel

Galvanised steel

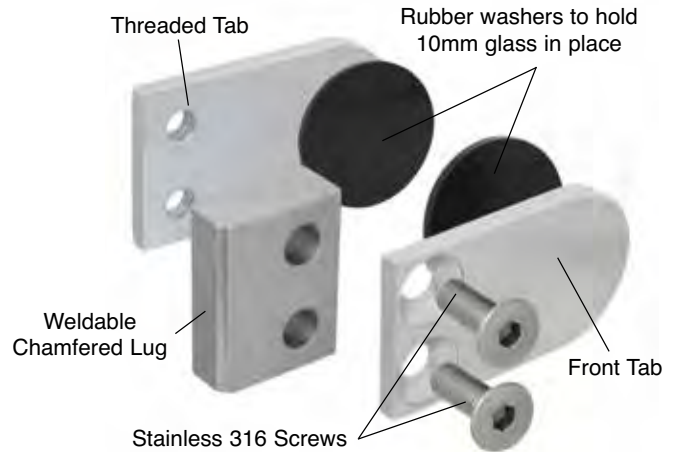


**No Need For Pre-Drilled Glass!**



**Specification:**

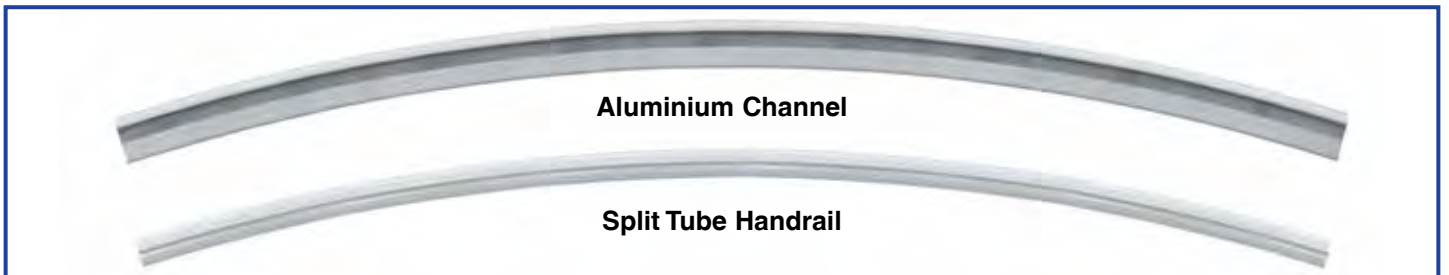
- Weldable lug
- Suitable for square or round steel posts
- Size 40 x 80 x 25mm
- No pre-drilled glass required
- Stainless steel 316 flush M8 screw
- Suitable for 10mm glass



Code	Description
1801401F	BZP tabs with cast steel lug
1801401F316	Satin polished 316 tabs with cast steel lug
1806401W	Satin polished 316 tabs with cast stainless steel 316 lug

Should only be used where glass does not overhang an edge/balcony

**Radius bends on handrail and balustrade can be supplied within days!**

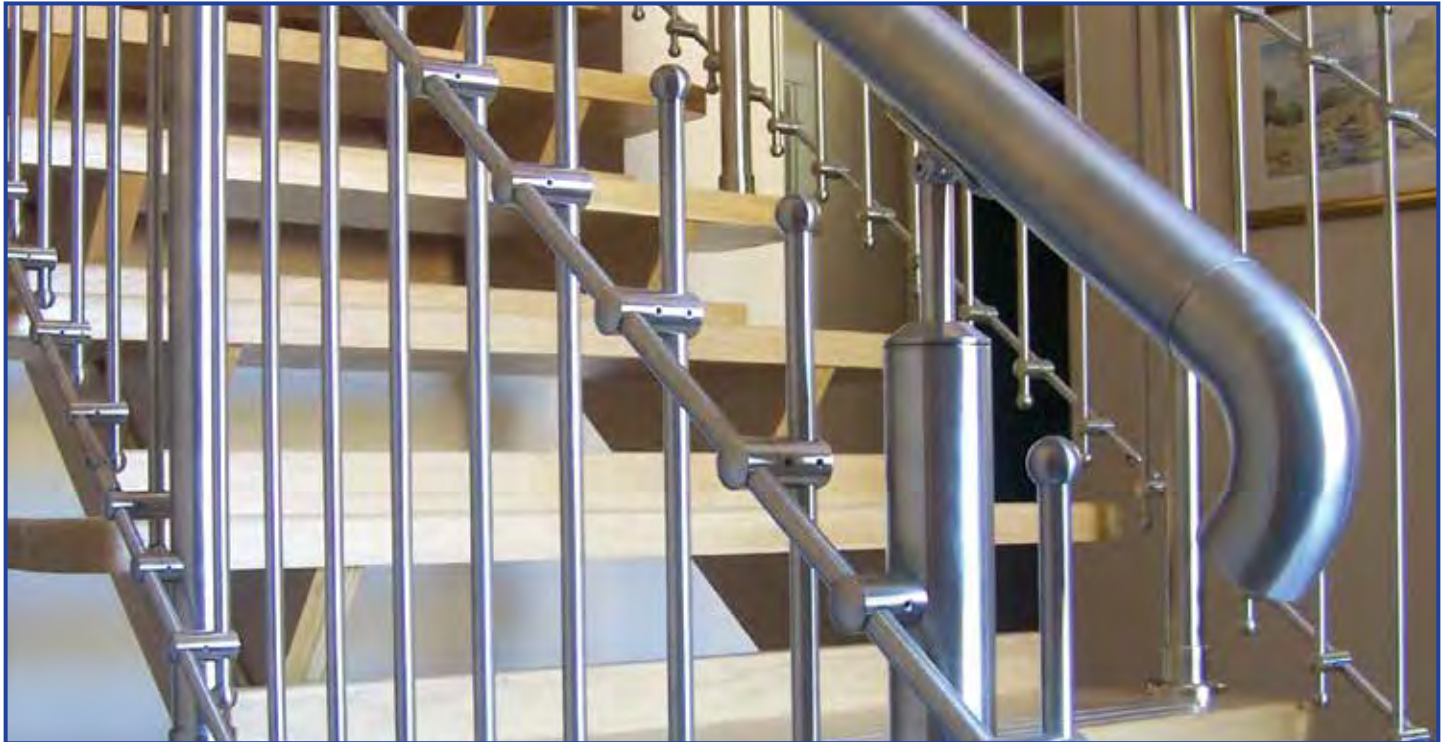


304 Internal

316 External

Zinc

Our crossbar system can provide a modern handrail and balustrade for many applications. Providing another practical alternative to a glazed balustrade. Flexible components allow for 7 rails to be fitted as standard and it can also work with plain or decorative vertical bars using a simple 2 part adaptor.



**Hollow Tube**



Code	Ø mm
1804510	12
1806510	12

3m length

**Solid Bar**



Code	Ø mm
1804500	12
1806500	12

3m length

**Solid End Ball**



Code	Ø mm
1804502	20
1806502	20

**Angle Joint Connector**



Code
1804507
1806507

**Crossbar Holder Flat Mounting**



Code
1804501F
1806501F

12.2mm through hole requires 6mm fixing bolt **Code: 189900621**

**Crossbar Holder Tube Mounting**



Code	Ø mm
1804501C	42.4
1804501D	48.3
1806501C	42.4
1806501D	48.3

12.2mm through hole requires 6mm fixing bolt **Code: 189900621**

**Crossbar Holder Two Part**



Code
1804508
1806508

12.2mm through hole

**Crossbar Holder Adjustable**



Code	Ø mm
1804509C	42.4
1804509D	48.3
1804509F	Flat
1806509C	42.4
1806509D	48.3
1806509F	Flat

Requires 6mm fixing bolt **Code: 189900621**

See page 15 for our range of pre-assembled posts.

Aluminium

Mild steel

Galvanised steel

**Ø 12mm Decorative and Plain Bars - 950mm High**

**Bush Single**



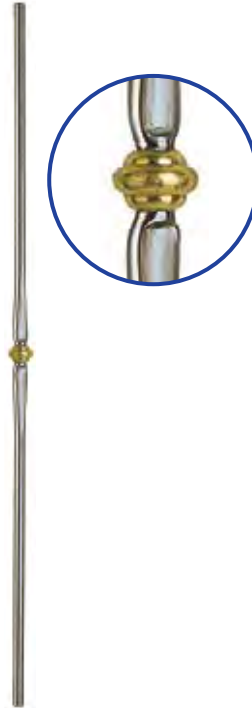
Code
1821006X04S

**Bush Double**



Code
1821008X04S

**Brass Bush Single**



Code
1821002X04S

**Brass Bush Double**



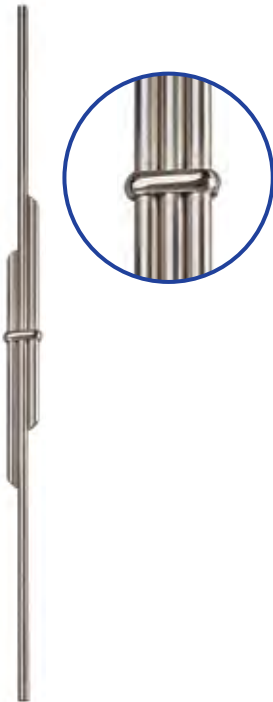
Code
1821004X04S

**Plain Bar**



Code
1821010X04S

**Clip**



Code
1821022X04S

**Clip and Sphere**



Code
1821038X04S

**Forged Bar**



Code
1821056X04S

**Forged Bar**



Code
1821058X04S

304 Internal

316 External

Zinc



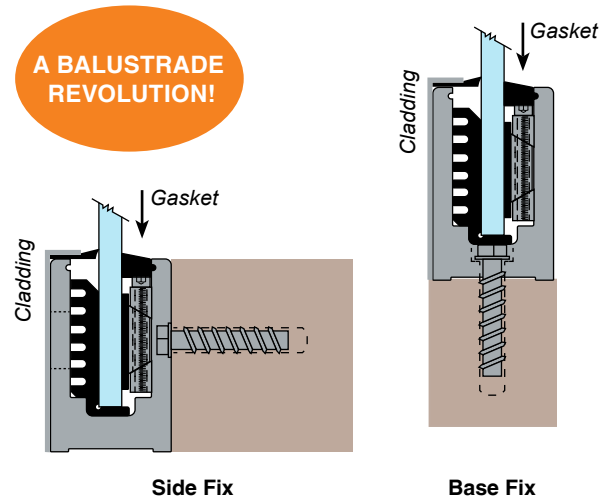
The PanelGrip® System utilises a unique locking mechanism of high-strength aluminium and PVC isolators combined with a specially designed aluminium Shoe Moulding. When assembled with 15 - 21.5mm tempered monolithic, or tempered laminated glass, PanelGrip enables the installer to fabricate a structural Glass Railing System with a significant reduction in labour.



U.S. Patent 7,730,682; Other patents pending

## The benefits of PanelGrip are:

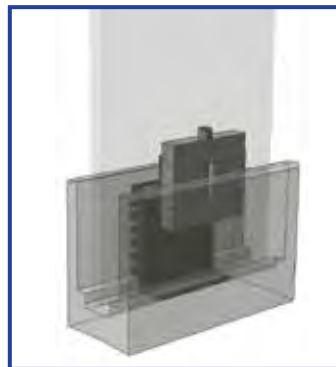
- Adjustable**  
 The PanelGrip design enables the system to be simply adjusted and readjusted when installed
- Reduce labour costs**  
 No sealing of the shoe, no setting blocks, no plumbing of glass, no multiple pours of cement, no waiting for cement to cure; no messy clean-up
- Simple to install**  
 All you need is an Allen key for installation or removal of glass



Visit our website to see how simple this system is to install and also for test data and loading calculations.



1. Place Dry Mount Grips into shoe moulding



2. Insert PanelGrip on the opposite side



3. Tighten PanelGrip mechanism



4. Confirm alignment and fully tighten

Aluminium

Mild steel

Galvanised steel

## Aluminium Channel + Grip Selector

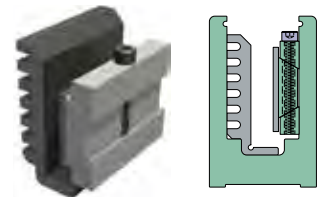
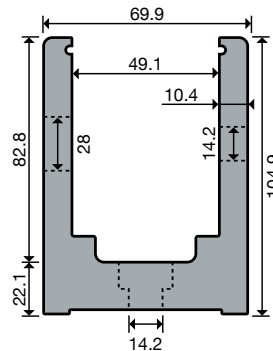
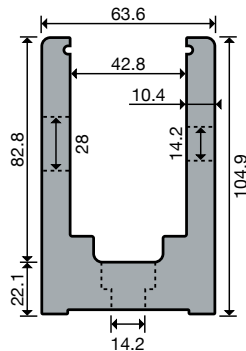
### 460 Series

Suitable for 12 & 15mm glass

### 466 Series

Suitable for 17.5, 19 & 21.5mm glass

### Grip



Glass Thickness mm	Length	Base Fix Channel	Side Fix Channel	Grip
12	3.048m (10ft)	<b>1805460B</b>	<b>1805460S</b>	<b>1805461B</b>
15		<b>1805460B</b>	<b>1805460S</b>	<b>1805461</b>
17.5		<b>1805466B</b>	<b>1805466S</b>	<b>1805461B</b>
19 & 21.5		<b>1805466B</b>	<b>1805466S</b>	<b>1805461</b>

Channel fixing holes are 14mm at 203.2mm (8") centres to suit a 12mm bolt

Please order 5 grips per metre

PanelGrip is supplied non-anodised

## Cladding + Gasket Selector

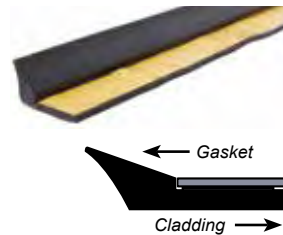
### Cladding End Cap



### Cladding



### Gasket for use with Cladding

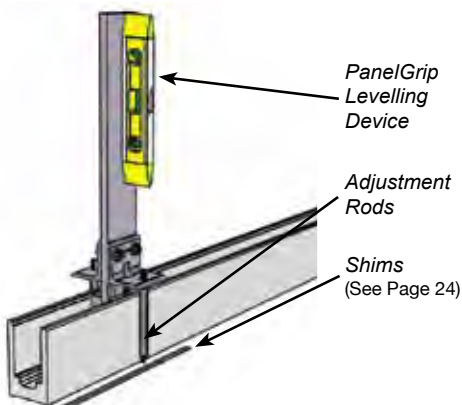


### Gasket for use without Cladding



Code	Product	Length m	Size mm/Type
<b>18054653</b>	Stainless Cladding	3.0	105 x 20.6 x 0.8
<b>1805467</b>	460 Series End Cap	-	Satin
<b>1805468</b>	466 Series End Cap	-	Satin
<b>1805453</b>	Cladding Tape	50	Double Sided
<b>1805463</b>	Gasket - Full Roll for use with cladding	30.48	28 x 6
<b>18054631</b>	Gasket - Metre for use with cladding	1.0	26 x 6
<b>1805462</b>	Gasket - Full Roll for use without cladding	76.2	18 x 14
<b>18054621</b>	Gasket - Metre for use without cladding	1.0	18 x 4

## Levelling Device



SEE PAGE 61 FOR GLASS LOADING GUIDELINES.

Code	Product
<b>1805464</b>	Plumbing Bar with Spirit Level
<b>1805456</b>	Shims 1m long 3mm thick (pack of 9)

For all fixings and Allen keys see pages 52 - 55.

304 Internal

316 External

Zinc

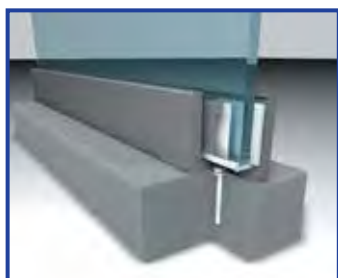
Frameless Glass Balustrade provides stunning results everytime. Our patented systems, PanelGrip and PanelWedge offer clean lines and simple installation, making the most of the views.



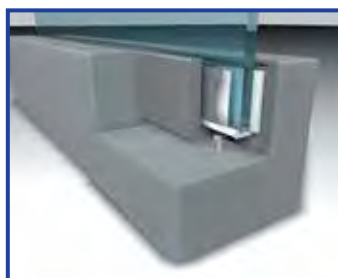
A flexible system allowing installation of glass panels from 15 to 25mm thick to achieve up to 3kN/m loadings (subject to specialist installation). Various fixing options result in a system for almost every application you will come across.

## PANELWEDGE BALUSTRADE SYSTEM

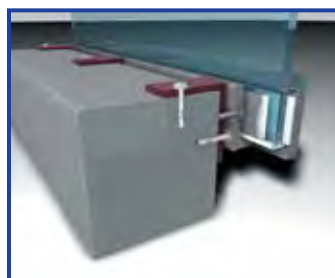
Base Fix to Concrete



Rebate in Concrete



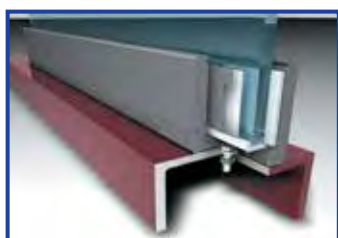
Side Fix to Concrete



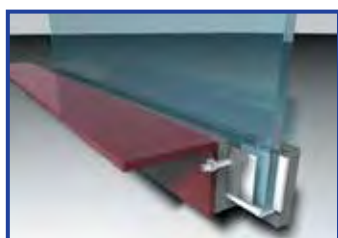
Edge Fix to Concrete



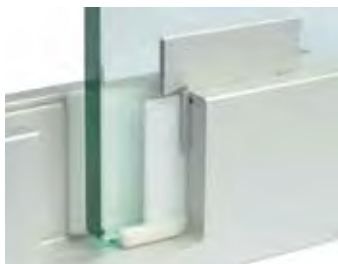
Base Fix to Steel



Side Fix to Steel



1. Insert bottom/side plastic isolator



2. Insert glass and aluminium wedge - check alignment



3. Hammer in the aluminium wedges



4. Apply the cladding wedges

 Aluminium

 Mild steel

 Galvanised steel



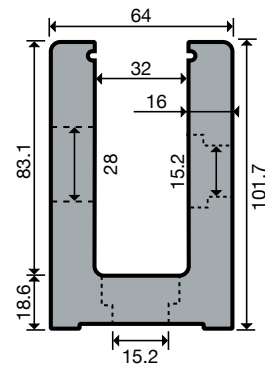
## Aluminium Channel



For fixings see page 54

Code	Fixing	Length m
1805450B	Base	3
1805450S	Side	3

## 450 Series



## Bottom/Side Isolator & Aluminium Wedges



Code	Glass Thickness mm	Sets
180545115	15	4 per metre
1805451175	17.5	4 per metre
180545119	19.0	4 per metre
1805451215	21.5	4 per metre
180545125	25.0	4 per metre

## Stainless Cladding



Mirror finish available to order

Code	Finish m	x mm	Length m
180545216	Satin	16	3
180545222	Satin	22	3
180545226	Satin	26	3

15mm glass requires 22mm cladding (wedge side) and 26mm (packer side)  
 17.5 - 19mm glass requires 22mm cladding on both sides  
 21.5 - 25mm glass requires 22mm cladding (wedge side) and 16mm (packer side)

Please consult a structural engineer to ensure your designs test data conforms to loading requirements.

### Tape for Fixing Cladding

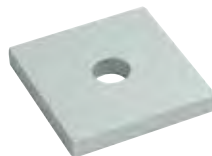
50m roll



Code
1805453

### Channel Spacer

5 per metre



Code
1805454

### Cladding End Cap

Satin finish



Code
1805455

### Shims

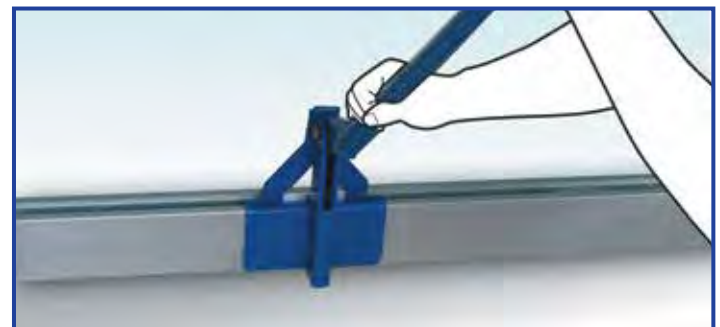
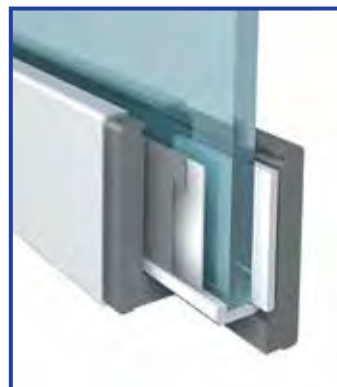
1m length, pack of 9



Code
1805456



Side profile of an installation



Code	Description
180599001BUY	Wedge Removal Tool to Buy

304 Internal

316 External

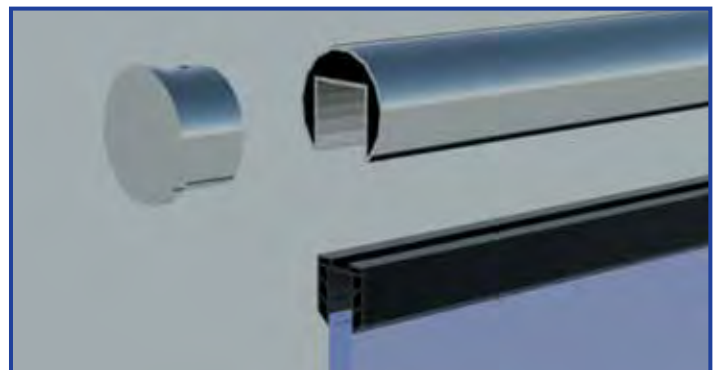
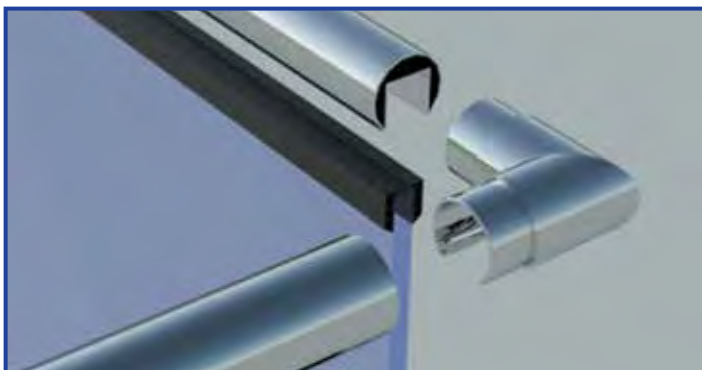
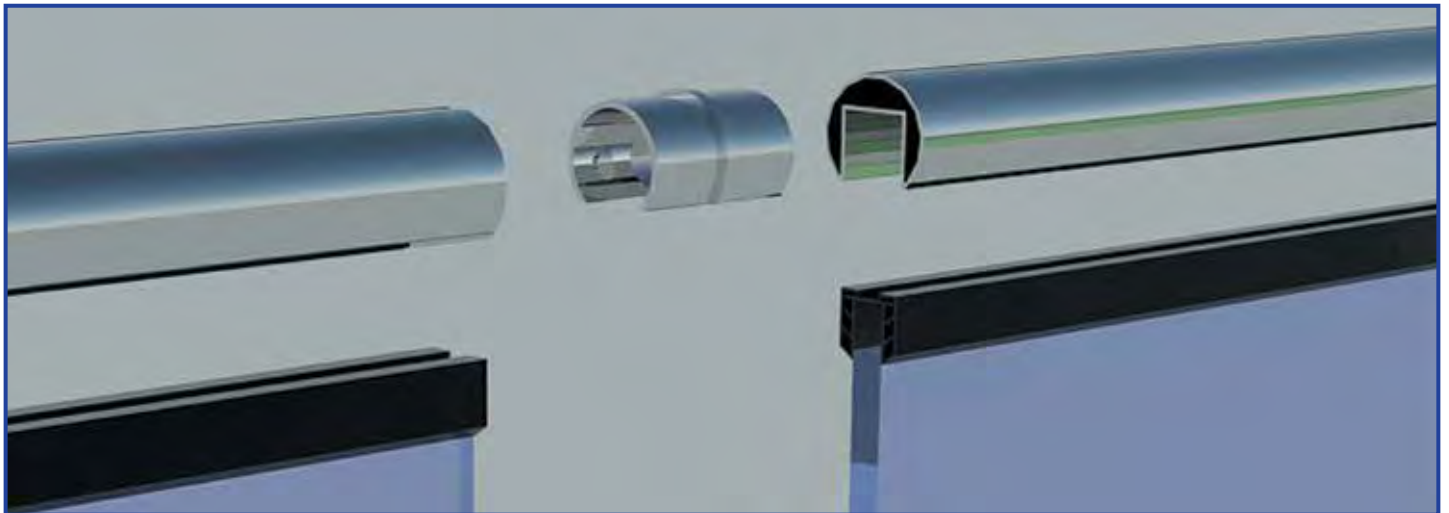
Zinc



Split tube fittings offer a stylish solution to the top of any glass balustrade and also provide a visual break. If you're planning radiused glass in your design not a problem, as we can shape to match.



**Split Tube Handrail Component Assembly**



 Aluminium

 Mild steel

 Galvanised steel

## 90° Vertical Corner



## 90° Horizontal Corner



## In Line Connector



Code	Ø mm
1804410C	42.4
1804410D	48.3
1806410C	42.4
1806410D	48.3

Code	Ø mm
1804411C	42.4
1804411D	48.3
1806411C	42.4
1806411D	48.3

Code	Ø mm
1804412C	42.4
1804412D	48.3
1806412C	42.4
1806412D	48.3

## 25° to 55° Adjustable Connector - Downwards



## 25° to 55° Adjustable Connector - Upwards



## End Cap



Code	Ø mm
1804416C	42.4
1804416D	48.3
1806416C	42.4
1806416D	48.3

Code	Ø mm
1804417C	42.4
1804417D	48.3
1806417C	42.4
1806417D	48.3

Code	Ø mm
1804413C	42.4
1804413D	48.3
1806413C	42.4
1806413D	48.3

## Tube Adaptor



## Wall/Floor Flange



## Split Tube

1.5mm wall thickness



Code	Ø mm
1804414C	42.4
1804414D	48.3
1806414C	42.4
1806414D	48.3

Code	Ø mm
1804415C	42.4
1804415D	48.3
1806415C	42.4
1806415D	48.3

3m length

Code	Ø mm
18047053C	42.4
18047053D	48.3
18067053C	42.4
18067053D	48.3

6m length

Code	Ø mm
1804705C	42.4
1804705D	48.3
1806705C	42.4
1806705D	48.3

## Rubber Profile for Glass

Ø 42.4mm

Ø 48.3mm



Code	Glass Thickness mm
189903811C	8 - 11
189903115135C	11.5 - 13.5
18990315C	15
18990316175C	16 - 17.5
18990319C	19
18990320215C	20 - 21.5

Code	Glass Thickness mm
189903811D	8 - 11
189903115135D	11.5 - 13.5
18990315D	15
18990316175D	16 - 17.5
18990319D	19
18990320215D	20 - 21.5

All fittings suit 1.5mm tube.

304 Internal

316 External

Zinc

# One Stop Shop for Glass and Handrailing

Choosing Pro-Railing for your residential or commercial project just got easier with the addition of stocked glass to the range. Our standard and non-standard panels come in a variety of different glass types, with delivery direct to your site. You can specify and install Pro-Railing with confidence as your partner of choice.

## Our range of standard glass panels

- Suits our various Pro-Railing systems
- Offers 'off the shelf' solutions
- Complies with height constraints of Building Regs
- Comes in standard widths to ease specifying and handling
- Is toughened or toughened & laminated

## Our range of Make-Up and Non-Standard glass panels

- Complements our stock panels to complete any layout
- Can be any shape or profile
- Is easily ordered
- Can be made to match your own templates

PRO-RAILING  
BS EN 12150 1(C)1  
T 876

PRO-RAILING  
BS EN 14449 1(B)1  
T 876

---

If it doesn't say Pro-Railing,  
it's not Pro-Railing!



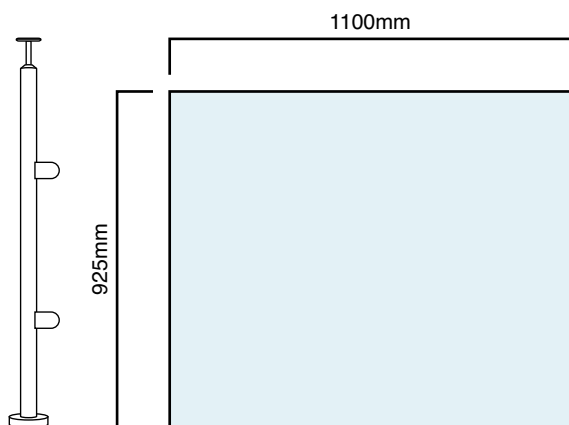
Aluminium

Mild steel

Galvanised steel

### 10mm Thick Toughened Monolithic Clear Float Glass

Use with our fully assembled glass clamp posts

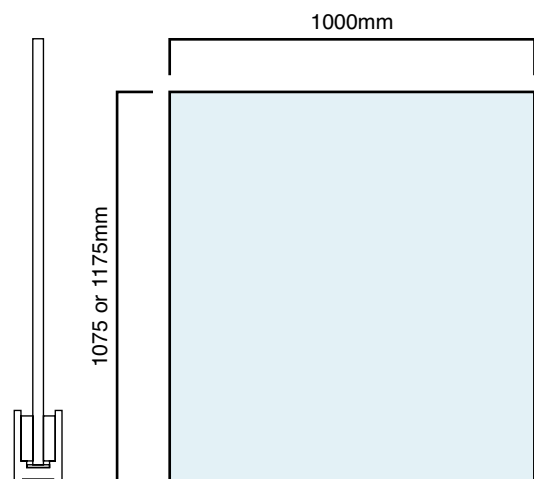


- Suits standard height uprights installed at 1200mm centre to centre
- Polished edges
- 3mm radiussed corners
- No security pin holes required
- Use with type 401 & 402 glass clamps
- See next page for fitting advice

Code	Weight Kg	For Use With	Size mm
1855101100925	25.44	Fully assembled posts or 401 or 402 series clamp	1100 x 925 x 10

### 15 & 19mm Thick Toughened Monolithic Clear Float Glass

Use with our aluminium glass channel systems such as PanelGrip & PanelWedge

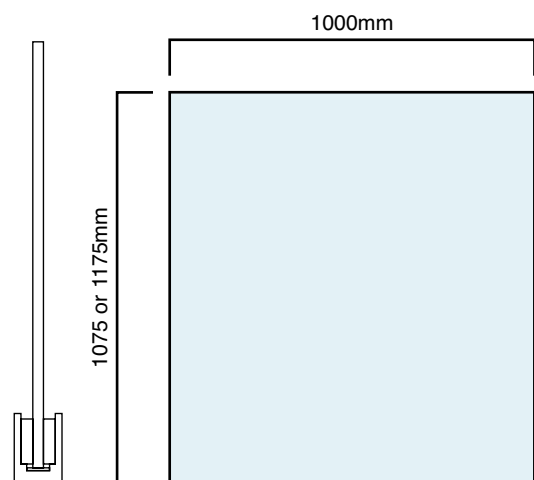


- Suits our PanelGrip & PanelWedge types of channel – base or side fixed
- Polished edges
- 5mm radiussed corners
- Handrail will be required
- See next page for fitting advice

Code	Weight Kg	For Use With	Size mm
18551510001075	40.32	Base fixed channels set onto finished floor line	1000 x 1075 x 15
18551910001075	51.42		1000 x 1075 x 19
18551510001175	44.07	Side fixed channels set 100mm below finished floor line	1000 x 1175 x 15
18551910001175	56.20		1000 x 1175 x 19

### 17.5 & 21.5mm Thick Toughened & Laminated Clear Float Glass

Use with our aluminium glass channel systems such as PanelGrip & PanelWedge

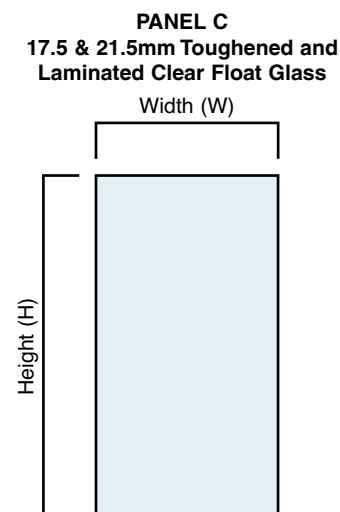
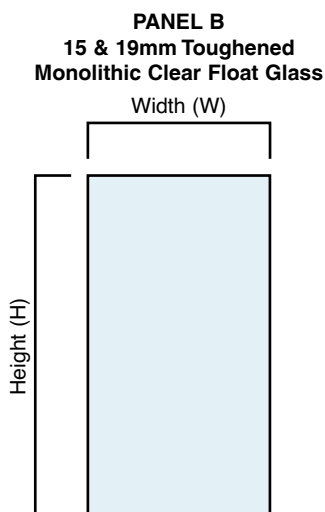
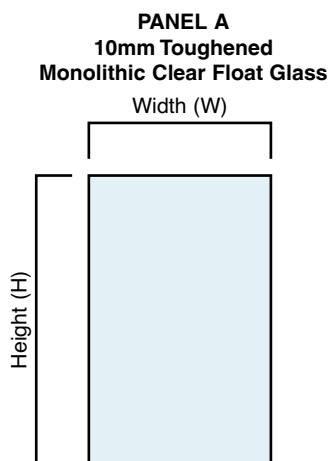


- Suits our PanelGrip & PanelWedge types of channel – base or side fixed
- Polished edges
- 3mm radiussed corners
- See next page for fitting advice

Code	Weight Kg	For Use With	Size mm
185617510001075	47.04	Base fixed channel set onto finished floor line	1000 x 1075 x 17.5
185621510001075	57.76		1000 x 1075 x 21.5
185617510001175	51.41	Side fixed channel set 100mm below finished floor line	1000 x 1175 x 17.5
185621510001175	63.15		1000 x 1175 x 21.5



Use this guide for ordering make-up panels to match our standard panels and complete your installation.



## Ordering Guide:

Name: \_\_\_\_\_ Contact Number: \_\_\_\_\_

Panel Reference	Panel Type			Glass Thickness	Panel Height	Width Required	Quantity
Example	A	B	C	21.5	1075	830	2
1	A	B	C				
2	A	B	C				
3	A	B	C				
4	A	B	C				
5	A	B	C				
6	A	B	C				
7	A	B	C				

Complete as required and return to your local sales office for processing

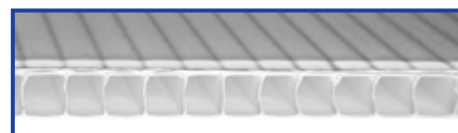
Where our standard panels cannot be used, we can offer costs for the production of fully bespoke panels if required.

### Our bespoke panels can be:

- Toughened and laminated
- Produced in any shape using state-of-the-art CNC machines
- Produced from many different types of glass
- Coloured or curved
- Drilled and notched
- Made to suit almost all applications

We can provide suitable templating material that can be cut to suit any special shapes on site and sent to our processors for production to match the template exactly, using modern imaging scanning technology to duplicate your design. Price and availability for bespoke panels are available on request.

Code	Size mm	Description
185900201	2440 x 1220 x 4	Templating sheet



## Advice on Fitting Glass

Where a run of glass is made up of multiple panels, we recommend spacing between panels of 25mm.

The reasons for this are:

- 25mm is wide enough for most fingers to pass through easily without getting trapped
- Lining up the glass is much easier, as the smaller the gap, the more noticeable a small +/- difference becomes

Lumenrail® provides the finishing touch to your design or installation with brilliant cool white light produced by high brightness LEDs. Ideal for stairwells and walkways in restaurants, offices, leisure, retail and any location requiring illumination for safety and security. Fully dimmable and only 19mm (3/4") wide, it fits discreetly and securely into our split tube range of handrail and fittings for use either inside or outside in both wet and dry locations and is IP66 rated.



## Application

- ETL listed LED illuminated railing system delivering pathway and wall illumination for indoor and outdoor use
- Designed to satisfy ANSI, ADA and IBC codes when properly specified and installed
- Railings are manufactured in Stainless Steel Type 316
- May be used for exit lighting and emergency lighting with backup system

## Lighting Options

- Lumenrail is available from stock with brilliant cool white light (4000K) but is also available in warm white (3000K) to order
- Lumenrail LED light sticks are available in lengths from 150mm (6") to 1500mm (60") in 150mm (6") increments. Standard length is 1067mm
- Standard Lumenrail LED Light sticks are supplied with transparent lens but are also available in matte to order

## Construction

- Guardrail or Handrail
- Wall or Post Mount
- Posts & brackets are typically spaced no further than 1200mm on centre to meet structural load requirements
- Post mounted railings have several infill panel options available including glass, wire & a variety of flat sheets



### Transparent Lens



#### Electrical Specification For LED Light Stick

- 24VDC, 100W Power requirement
- Power consumption is 2W per 300mm
- Class 2 - 24VDC power supply
- Use an approved means of connection
- -20° to +50° C operating temperature
- 50,000 Hours (approximately) of LED life
- NEMA 3R rating
- Power supply is 240VAC 50Hz

#### LED Specification

- 5400K colour temperature
- Selected high brightness LEDs
- Lens angle is 65°
- Brightness of transparent lens: 109.3/300mm
- Aluminium housing
- 1067mm Long
- IP66 Listing
- Approximately 21° C (70° F) ambient temperature

Code	Description
1809001	LED Light Stick with Transparent Lens

### LED Driver



Lumenrail low voltage LEDs require a power supply to transform and regulate the voltage. This compact electronic driver is protected against open circuit, short circuit, overload and overheating.

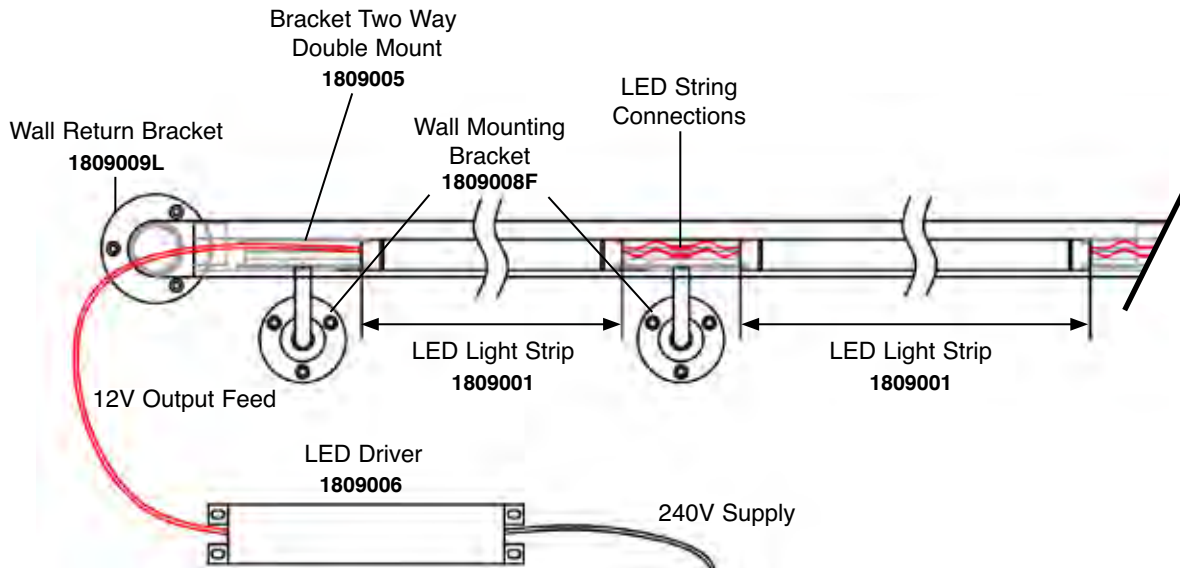
24VDC 100 W DRIVER	MAXIMUM DISTANCE FROM DRIVER TO LED				
	Cross sectional Area mm <sup>2</sup>	5.26	3.31	2.08	1.31
Distance m	36	21	14	8.0	5.0

#### LED Driver Specification

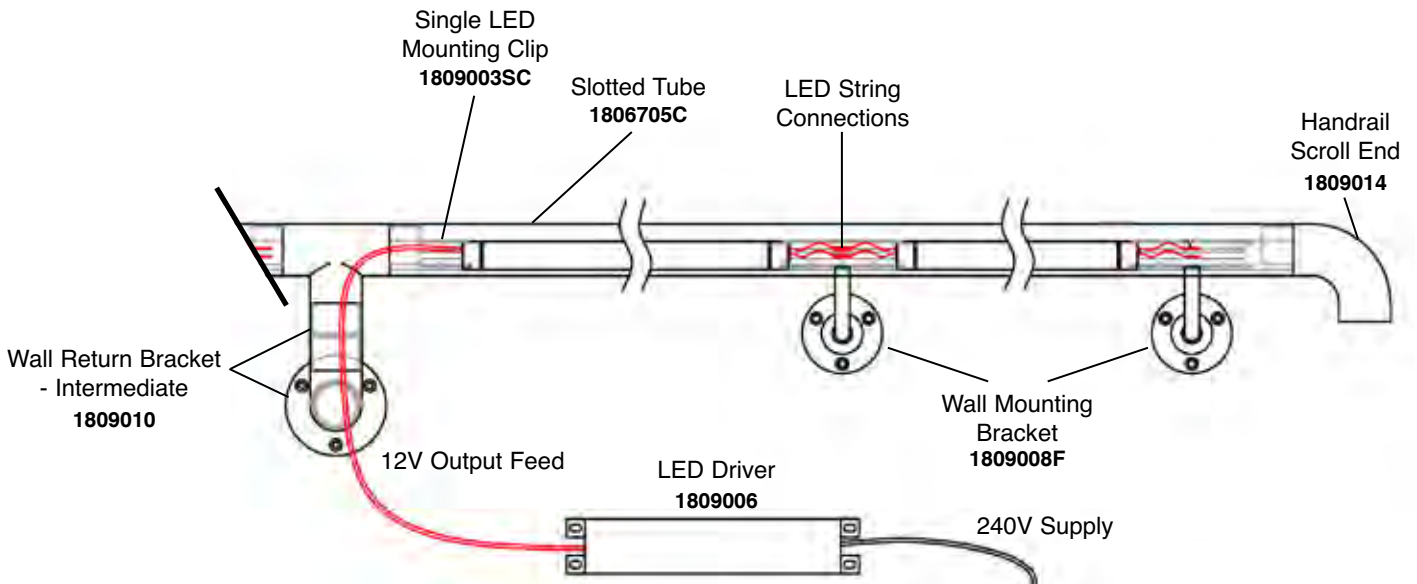
- 240 (L) x 45 (W) x 30mm (H)
- IP66 classification
- -30° to +60° C temperature
- 1% line, 5% load regulated output
- 240V voltage
- 90% minimum power factor
- Total harmonic distortion is 20% maximum
- 1.5 max current crest factor
- 3 drivers may be daisy chained together for longer runs
- Up to 10m of lights may be powered off each individual driver

Code	Type	Description
1809006	24V/100W	Suitable for 10 LED Light Sticks

**Powering LEDs From End Wall Connection**

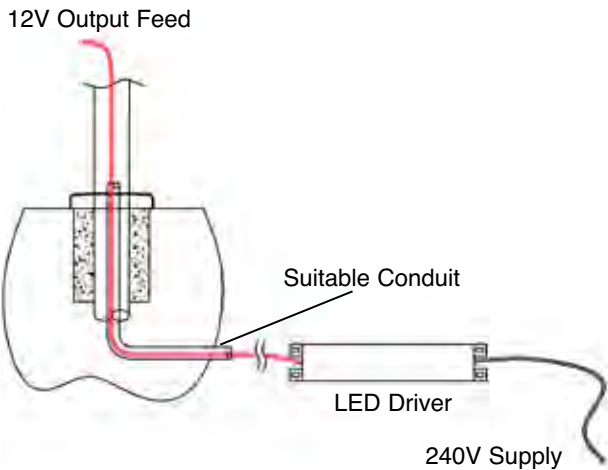


**Powering LEDs From Mid Rail Position**

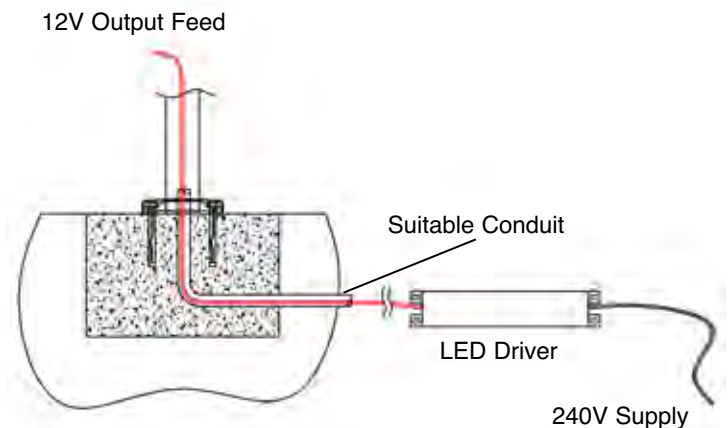


**LUMENRAIL - POST MOUNT WIRING**

**Extended Post Mounted Into Pocket**



**Post Mounted Onto Concrete**







**lighting facts**  
A Program of the U.S. DOE

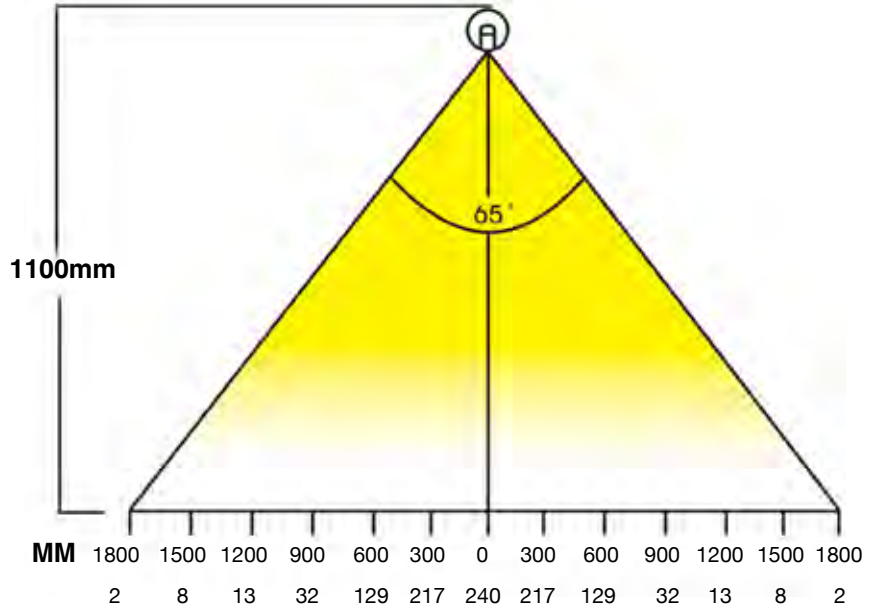
Light Output (Lumens)	348
Watts	7.019
Lumens per Watt (Efficacy)	49
<b>Color Accuracy</b>	
Color Rendering Index (CRI)	61
<b>Light Color</b>	
Correlated Color Temperature (CCT)	3082 (Bright White)
Warm White	Bright White
2700K	3000K
4500K	6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

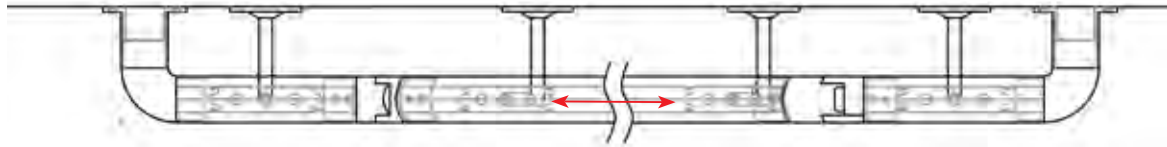
Registration Number: C1A1-M357DJ  
 Model Number: LUL54K70TF - 42  
 Type: Cove light

LUX Measurement - Transparent Lens

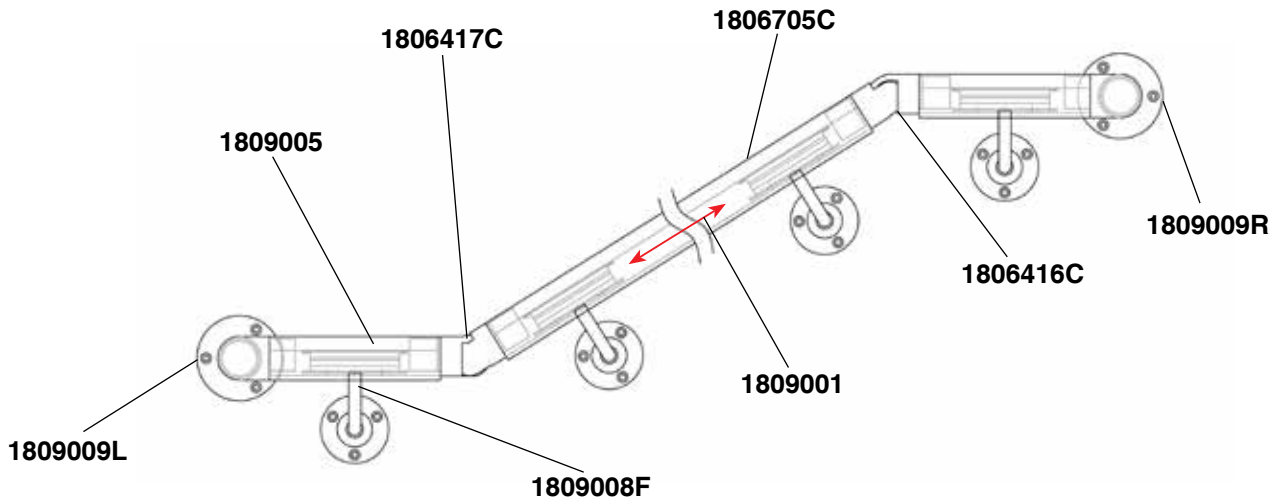




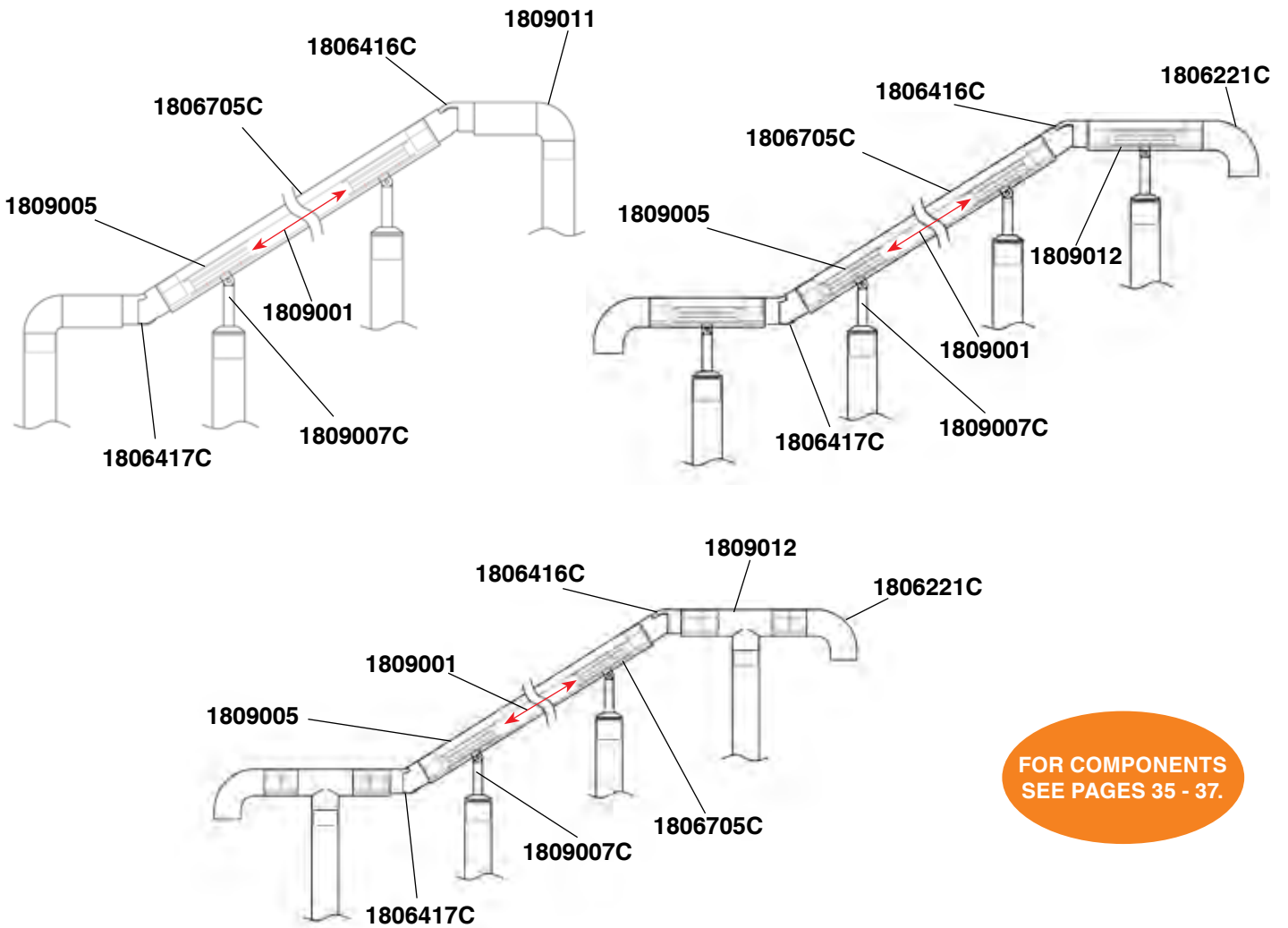
Plan View



Front View



LUMENRAIL - POST MOUNTING GUIDE



FOR COMPONENTS  
SEE PAGES 35 - 37.

304 Internal

316 External

Zinc

## Bracket Single Mount

To hold light stick in position



10mm

Code	Ø mm
1809003SC	42.4

## Bracket Two Way Double Mount

For use with cranked elbow or handrail adaptor



10mm

8mm

10mm

Code	Ø mm
1809005	42.4

## Handrail Adaptor and Stem

For use with single and double mount



8mm

Code	Ø mm
1809007C	42.4

## Cranked Elbow and Wall Plate

For use with double mount



8mm

Code
1809008F

## Wall Return Bracket - Left

For use at the end of a run to return wires to the wall



Code	Ø mm
1809009L	42.4

## Wall Return Bracket - Right

For use at the end of a run to return wires to the wall



Code	Ø mm
1809009R	42.4

## Post Tee - Universal



Code	Ø mm
1809012	42.4

## Corner Post Fitting - Universal



Code	Ø mm
1809013	42.4

Aluminium

Mild steel

Galvanised steel

**Post Elbow - Universal**



Code	Ø mm
1809011	42.4

**90° Flush Angle Scroll End**  
For use with round tube only



Code	Ø mm
1806221C	42.4

**Handrail Scroll End - Universal**



Code	Ø mm
1809014	42.4

**25 to 55° Adjustable Connector - Downwards**



Code	Ø mm
1806416C	42.4

**25 to 55° Adjustable Connector - Upwards**



Code	Ø mm
1806417C	42.4

**Handrail Connector**  
To connect a handrail from split tube to round tube



Code	Ø mm
1809015	42.4

**Handrail Saddle**  
With cable hole

**NEW**



Code	Ø mm
1809310CC	42.4

**Wall Bracket**  
With cable hole

**NEW**



Code	Ø mm
1809305FC	42.4

**Tube Connector**  
With cable hole

**NEW**



Code	Ø mm
1809313CC	42.4

**Wall End Connector**  
With cable hole

**NEW**



Code	Ø mm
1809209C	42.4

304 Internal

316 External

Zinc



**LED Driver**  
24V/100W - IP66 Rated



**LED Light Stick**  
1067mm long - cool white light.  
Other lengths available to order



Code	Description
1809006	Suitable for 10 LED Light Sticks

Code	Description
1809001	LED Light Stick with Transparent Lens

**Split Tube**  
1.5mm wall thickness



FOR Ø 48.3mm TUBE,  
SEE PAGE 42.

3m length

Code	Ø mm
18047053C	42.4
18067053C	42.4

6m length

Code	Ø mm
1804705C	42.4
1806705C	42.4



Aluminium

Mild steel

Galvanised steel

Stainless steel 3mm strand wire rope system is a simple and cost effective alternative to our crossbar system. It can be fixed to most surfaces including wood, metal and brick and is ideal for external applications in residential and commercial environments. Suitable for self assembly and simple to install using self locking, crimped or glued connectors.



**Turn Buckle Connector**



Code
1806601

**Plain Buckle Connector**



Code
1806602

**Post Fitting Adaptor Ring**



Example of post fitting adaptor ring for use with 6mm eyebolt  
Code: 1806603



6mm thread



Turn buckle connector exploded view

Code	Ø mm
1804335C	42.4
1804335D	48.3
1806335C	42.4
1806335D	48.3

**Swageless Turn Buckle Connector**



Code
1806611

**Swageless Turn Buckle**



Code
1806612

**Articulated Wire Tensioner**



Code	Ø mm
1806607C	42.4
1806607D	48.3



Swageless turn buckle connector exploded view

304 Internal

316 External

Zinc

## Wire Rope

1 x 19, 3mm thick



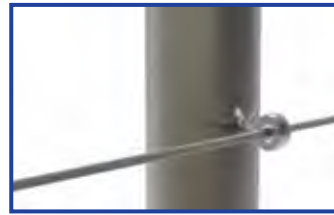
Code	Length m
180660510	10
180660550	50
1806605100	100

## Eyebolt - Woodscrew Thread



Code
1806606

## Eyebolt Connector



Code
1806603

## Locking Collar



Code
1806604

## Pad Eye



Code
1806608

## Nickle Plated Ferrule



Code
1806609

## Thimble



Code
1806610

## Crimping Tool



Code
189900102

## Hydraulic Crimping Tool



Code
189900103

## Wire Cutting Tool



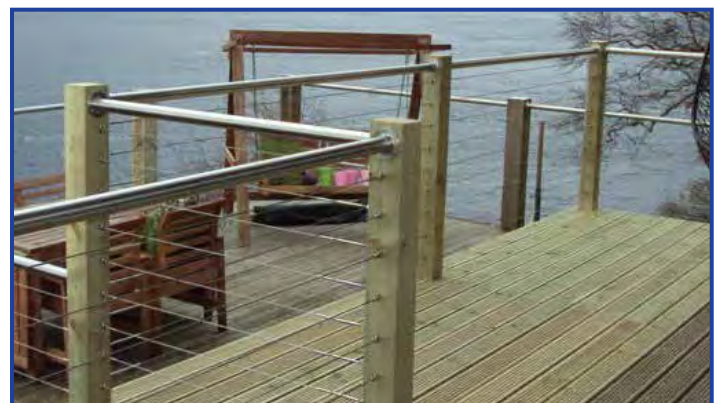
Code
080569

## Instant Adhesive (50ml)

Supplied with plunger and needle for accurate application.  
Use with 601 & 602 range



Code
1899007454



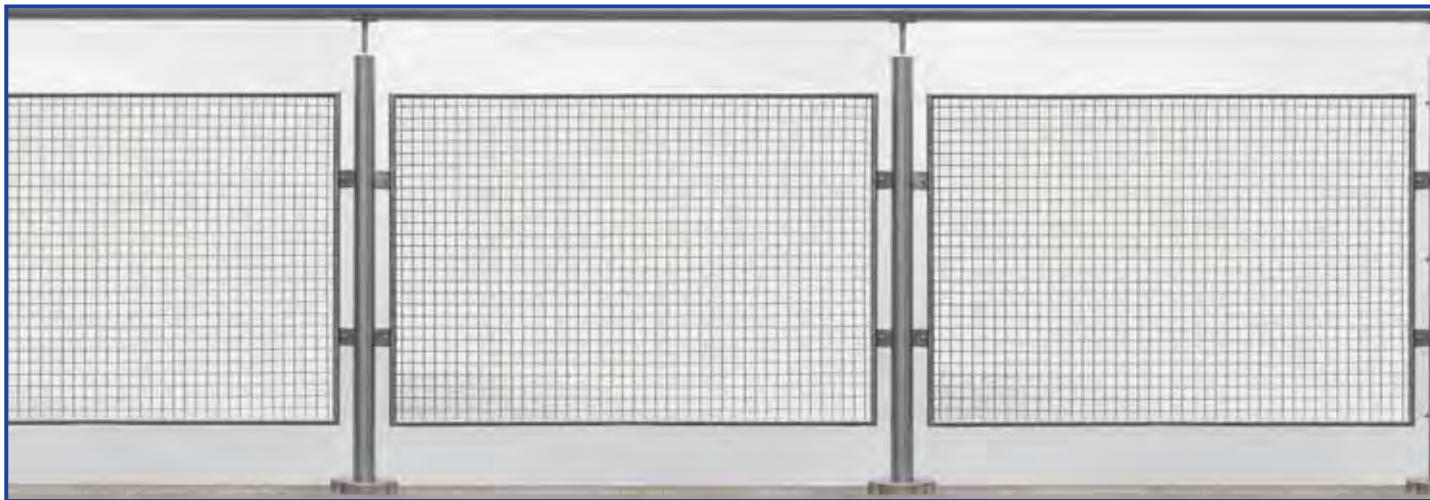
Aluminium

Mild steel

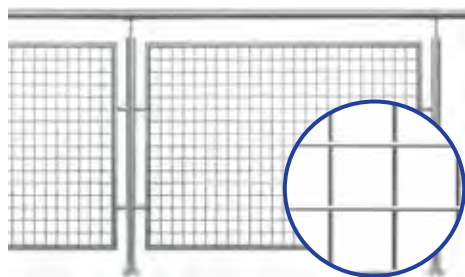
Galvanised steel



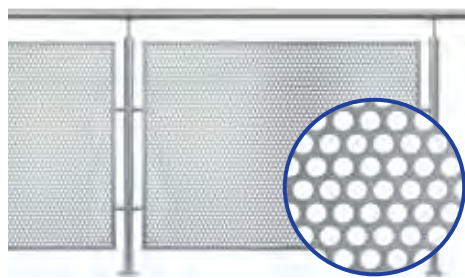
Infill solutions can include the use of Architectural Net, Welded Wire Mesh, Perforated and Expanded Metal. Amongst the materials offered is stainless steel, aluminium and mild steel, with a choice of thicknesses, aperture styles and edging section profiles. Zinc plating and powder coating for mild steel products is an option.



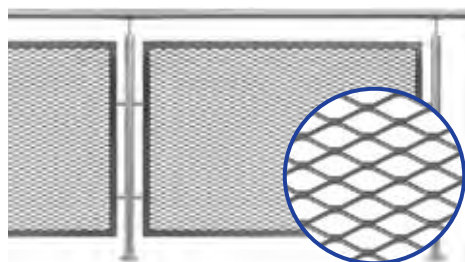
**Welded Wire Mesh**



**Perforated Metal**

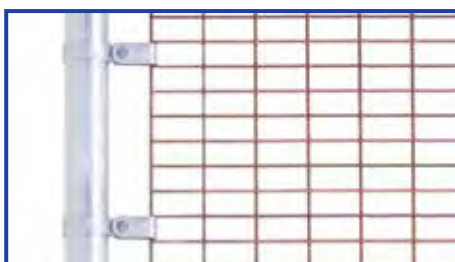


**Expanded Metal**

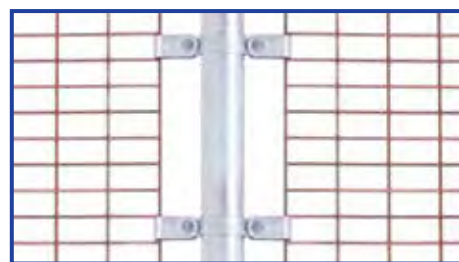


**Mesh Clips**

**Mesh Panel Clip - Single**



**Mesh Panel Clip - Double**



Code	Ø mm
16170C	42.4
16170D	48.3
1806170C	42.4
1806170D	48.3

Code	Ø mm
16171C	42.4
16171D	48.3
1806171C	42.4
1806171D	48.3

**Fixing Bracket - Single**



**Fixing Bracket - Double**



Code	Ø mm
1804511C	42.4
1804511D	48.3
1806511C	42.4
1806511D	48.3

Code	Ø mm
1804512C	42.4
1804512D	48.3
1806512C	42.4
1806512D	48.3

Fixing brackets can be used for fixing many different sheet material types to Pro-Railing

304 Internal

316 External

Zinc

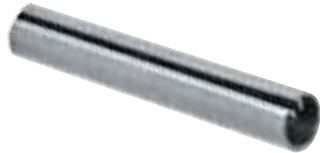


**Panel Infill Adaptor**



Code	Ø mm
1804503C	42.4
1804503D	48.3
1806503C	42.4
1806503D	48.3

**Split Tube**



Code	Ø mm
1504P011	18

3m length

**90° Infill Frame Corner**



Code
1804506

**Mesh Infill Support Clamp**



Code
1804505

Requires 6mm fixing bolt

Code: 189900621

Suits material 1.5 - 10mm thick



CALL YOUR LOCAL BRANCH FOR MORE INFORMATION ON WEBNET!

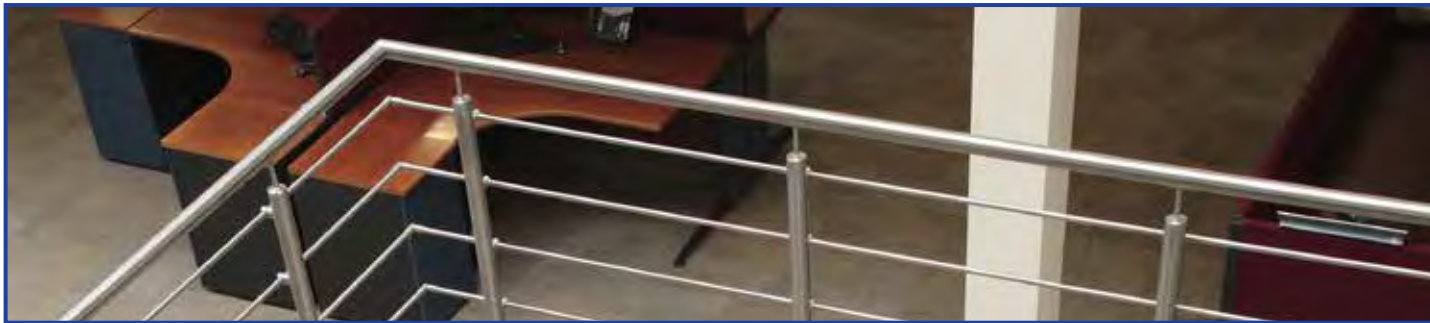


WE NOW STOCK GLASS, SEE PAGES 27-29!

Aluminium

Mild steel

Galvanised steel



Tube and Bar for Handrails and Posts



950mm length

Code	Ø mm
1804708CB	42.4
1804708DB	48.3
1806708CB	42.4
1806708DB	48.3

1200mm length

Code	Ø mm
1804708CL	42.4
1804708DL	48.3
1806708CL	42.4
1806708DL	48.3

3m length

Code	Ø mm
1804704C	42.4
1804704D	48.3
1806704C	42.4
1806704D	48.3

6m length

Code	Ø mm
1804700C	42.4
1804700D	48.3
1806700C	42.4
1806700D	48.3

Hollow Tube

1mm wall thickness



3m length

Code	Ø mm
1804510	12
1806510	12

Solid Bar



3m length

Code	Ø mm
1804500	12
1806500	12

Split Tube

1.5mm wall thickness



3m length

Code	Ø mm
18047053C	42.4
18047053D	48.3
18067053C	42.4
18067053D	48.3

6m length

Code	Ø mm
1804705C	42.4
1804705D	48.3
1806705C	42.4
1806705D	48.3

ZINC PLATED TUBE AND BAR FOR HANDRAILS AND POSTS

Handrail Tube

2mm wall thickness



Code	Ø mm	Length m
13i001	42.4	3.0
13i0016000	42.4	6.0

Round Bar



Code	Ø mm	Length m
13i005	12	3.0
13i0056000	12	6.0



The Mark You Can Trust

All stainless fittings are supplied in a satin polish finish grit 320. They can also be supplied in a variety of finishes.

304 Internal

316 External

Zinc

**Pre-Assembled Stainless Steel Handrail with End Caps**

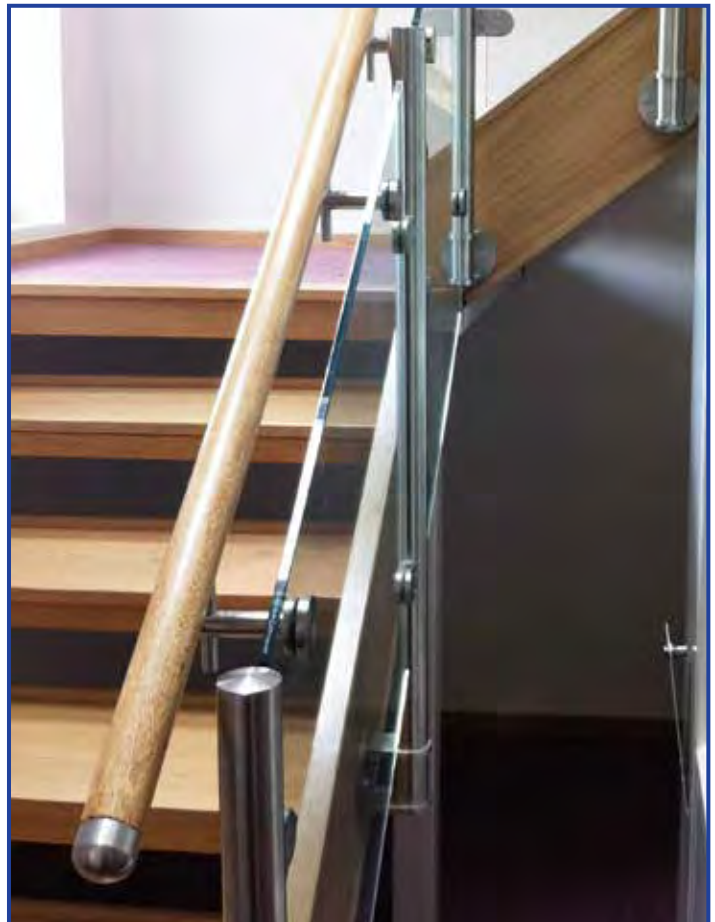


Code	Ø mm	Length m
1804801C	42.4	1
1804801D	48.3	1
1806801C	42.4	1
1806801D	48.3	1

**WE OFFER  
PRE-ASSEMBLED HANDRAILS  
AT LENGTHS SPECIFIC TO YOUR  
EXACT REQUIREMENTS.**

**WOODEN HANDRAIL SYSTEM**

If you would prefer the benefits of a wooden handrail system, the fusion of wood with stainless steel is possible with our integration range of components with handrails available in hard or softwood.



 Aluminium

 Mild steel

 Galvanised steel



**To Suit Ø 45mm Wooden Handrails**

**Flat End Cap**



Code
1807214C

**Rounded End Cap**



Code
1807215C

**"T" Fitting**



Code
1807205C

**Handrail Connector**



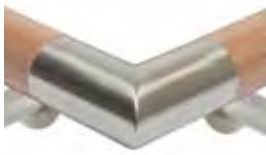
Code
1807206C

**Elbow - Round Corner**



Code
1807201C

**Elbow - Square Corner**



Code
1807202C

**Adjustable Elbow**



Code
1807203C

**Elbow - Pivotal**



Code
1807223C

**Straight Handrail Support**



Code
1807303FC

**Cranked Handrail Support**



Code
1807305FC

**Spare Plastic Support**



Code
189900701

**Drilling Guide for Fitting Endstops**



Code
189900702

**Drilling Template for Ø 33.7 and 42.4mm**



Code
13E40580

**Drilling Template for Ø 45mm Wood Handrail**



Code
189900101

**Untreated**



**SOFTWOOD FOR INTERNAL USE.**

**Varnished**



Code	Ø mm	Length m
18077032	45	2
18077033	45	3

Code	Ø mm	Length m
18077012	45	2
18077013	45	3

**Beech Effect**



Code	Ø mm	Length m
18077002	45	2
18077003	45	3

**Wengé Effect**



Code	Ø mm	Length m
18077022	45	2
18077023	45	3

304 Internal

316 External

Zinc



These three fittings have been developed to allow a smooth transition between Ø 48.3mm solid wooden handrail and all of the standard Ø 48.3mm Pro-Rail tube and fittings. They allow for wood-to-wood and wood-to-stainless balustrades to be created.

**End Cap**



**Connector**



**Adaptor**



Hole Ø 6mm.  
See page 54 for fixings,  
Code: 13i0381 or 13i0382

Code	Ø mm
1807230D	48.3

Requires Code: 1807232D

Code	Ø mm
1807231D	48.3

Code	Ø mm
1807232D	48.3

Not supplied with screws

### How to use these fittings



Ø 48.3mm solid wood is available in varying lengths and types. Please ask for details.

We are able to offer a wide range of solid hardwood handrails which are available unfinished for a final stain or lacquer to be applied after installation. High grade raw materials ensure consistent top quality handrails and our unique adaptor allows the use of our stainless steel components to simplify the installation.

**Steamed Beech**



Code	Ø mm	Length m
18077042	48.3	2
18077043	48.3	3

**HARDWOOD FOR  
INTERNAL OR  
EXTERNAL USE.**

**Sapele**



Code	Ø mm	Length m
18077052	48.3	2
18077053	48.3	3

**American White Oak**



Code	Ø mm	Length m
18077062	48.3	2
18077063	48.3	3

**European Brown Oak**



Code	Ø mm	Length m
18077072	48.3	2
18077073	48.3	3

Aluminium

Mild steel

Galvanised steel

# ZINC PLATED MILD STEEL HANDRAIL



For an economical alternative to our stainless steel system, we have zinc plated mild steel handrails. Offering the same flexibility as the rest of the range, the modular component system will add a stylish finish to any handrail installation.



## ZINC PLATED FLANGES AND BASE PLATES

**Base Fitting to suit Tube**  
13i001 and 13i016000



**Base Fitting**



FOR OUR  
FULL RANGE OF  
ZAMAC GLASS CLAMPS,  
SEE PAGES  
12 - 13.

Code
13iBF

Code
13iBFNP

**Cover Plate**



**Wall Flange**



**Base Flange**



Code	Height mm
13i020	15

Code	Ø mm
13i111	42.4

Code
13i0213

A coating is required to finish zinc plated items.

304 Internal

316 External

Zinc

## Holed Sphere



Code	Ø mm	Hole Ø mm
13i0127	25	12.2 Half Drilled
13i0129	25	12.2 Through Hole
13i0130	30	12.2 Through Hole
13i012	60	10 Thread Half Drilled

## Post Top to suit Tube 13i001 and 13i0016000



Code
13iPT

## Domed End Cap



Code	Ø mm
13i01112	42.4

## End Cap



Code	Ø mm
13i0119	42.4

## Handrail Tube



Code	Ø mm	Length m
13i001	42.4	3
13i0016000	42.4	6

2mm wall thickness

## Round Bar



Code	Ø mm	Length m
13i005	12	3
13i0056000	12	6

## Crossbar Holder Tube Mounting



Code	Ø mm	Hole Ø mm
13i0069	42.4	12.2

Requires 6mm fixing screw  
Code: 189900603

## Crossbar Holder Tube Fix



Code	Hole Ø mm
13i006	12.2

## Crossbar Holder Two Part



Code	Hole Ø mm
13i006966	12.2

# ZINC PLATED HANDRAIL SADDLES

## Fixed Spigot



Code	Ø mm	Height mm
13i031S1	42.4	75

## Adjustable Spigot



Code	Ø mm	Height mm
13i030S	42.4	75



The Mark You Can Trust

A coating is required to finish zinc plated items.

Aluminium

Mild steel

Galvanised steel

Mild Steel



Mild Steel



Satin Polish



Code	Description
171162	Cover plate and bracket
171162B	Bracket only
171162C	Cover plate only

76mm distance from wall to centre of bracket

Code	Description
171167	Cover plate and bracket
171167B	Bracket only
171167C	Cover plate only

90mm distance from wall to centre of bracket

Code	Description
171166	Cover plate and bracket

78mm distance from wall to centre of bracket

171169	Cover plate and bracket
--------	-------------------------

86mm distance from wall to centre of bracket

## FIXED SPIGOT HANDRAIL BRACKETS

Bright Zinc Plated  
Wall/Flat



Code
171164

63mm distance from wall to centre of bracket. Solid disc fixing plate

Bright Zinc Plated  
Wall/Flat



Code
171161

63mm distance from wall to centre of bracket. Dished stamped fixing plate

171163
--------

75mm distance from wall to centre of bracket. Dished stamped fixing plate

Aluminium  
Wall/Flat



Code
171165

63mm distance from wall to centre of bracket

Galvanised  
Wall/Tube



Code	Ø mm
13i0223	42.4

72mm distance from wall to centre of bracket

## TUBULAR HANDRAIL BRACKETS

Galvanised



WE ALSO STOCK GALVANISED TUBE!

Galvanised



Code	Ø mm
171168B	33.7
171168C	42.4
171168D	48.3

92mm distance from wall to centre of bracket

Code	Ø mm
16143A	26.9
16143B	33.7
16143C	42.4
16143D	48.3

## TUBULAR HANDLES

Weld Fix



Code	Size mm
171172	180 x 62

Ø 20mm tube

171173	280 x 78
--------	----------

Ø 28mm tube

Flanged



Code	Size mm
171170	230 x 64

Ø 20mm tube

171171	345 x 80
--------	----------

Ø 28mm tube

304 Internal

316 External

Zinc



**Latch and Catch**



Code	Ø mm
1804513C	42.4
1804513D	48.3
1806513C	42.4
1806513D	48.3

**Gate Hinge Pin and Bolt**



Code	Ø mm
1804514C	42.4
1804514D	48.3
1806514C	42.4
1806514D	48.3

**Self Closing Glass Gate Hinge**

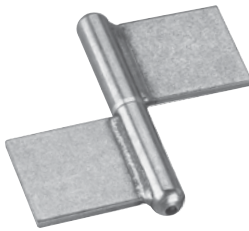


Code	Type	Ø mm
05GC09	Vinyl	48.3

For fixing 8 and 10mm glass weighing up to 25kg on to round posts. Supplied with brushed stainless hinge covers

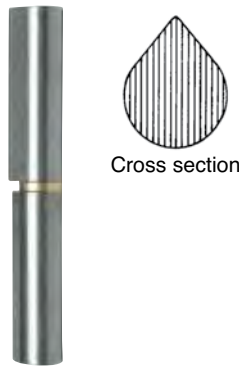
**WELDABLE HARDWARE**

**Off Set Flag Hinge**



Code	Size mm
0515FLAG80S	80
0515FLAG100S	100

**Universal Hinges**



Code	Size mm
05GAH100S	100
05GAH120S	120

**Self Closing Safety Gate Hinge**



Code	Description
18SGH	For Stainless Tube



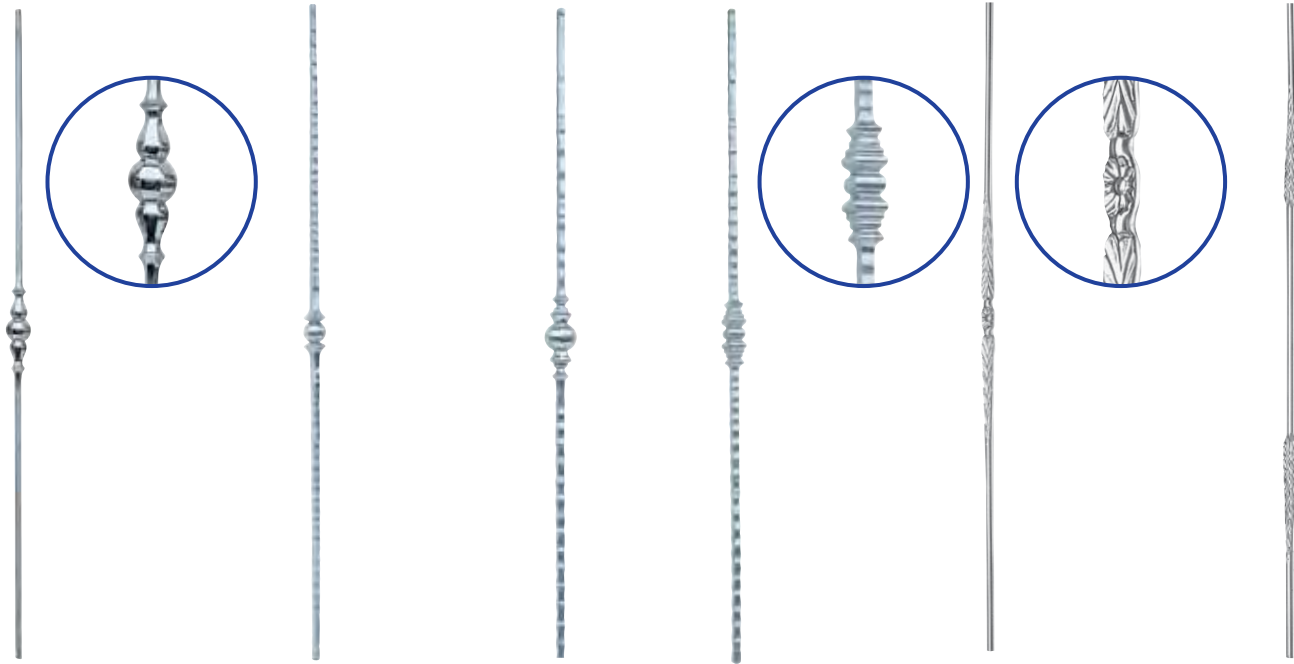
Aluminium glass balustrade combined with split tube handrail provides a stunning finish inside or out every time



Code: 05GC09 installation image



**Balusters - 1m High**



Code
0500014171X
Ø 12mm

Code
0500014191X
■ 12 x 12mm

Code
0500014192X
■ 12 x 12mm

Code
0500014201X
■ 12 x 12mm

Code
0500014223
Ø 12mm

Code
0500014224
Ø 12mm

**Newel Posts - 1.2m High**



Code
0500014161X
■ 25 x 25mm

Code
0500014165X
Ø 25mm

Code
0500014162X
■ 30 x 30mm

Code
0500014166X
Ø 30mm

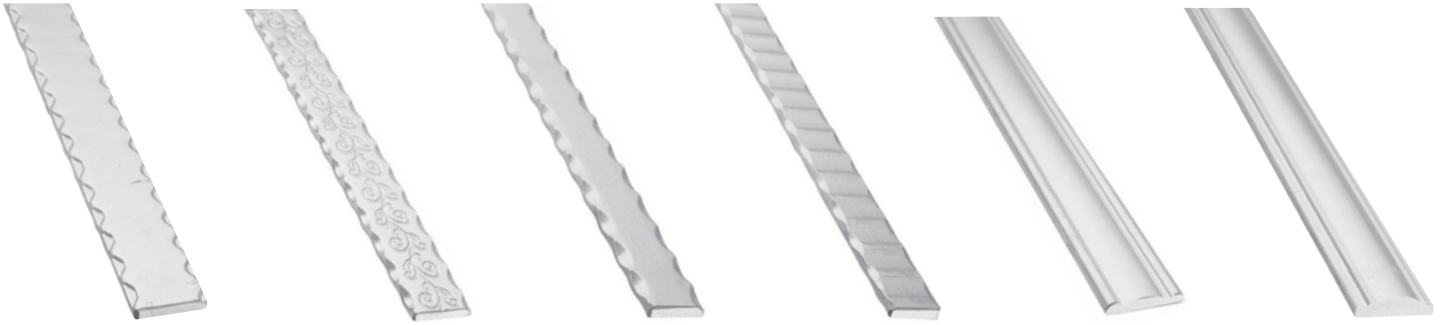


304 Internal

316 External

Zinc

**Handrails - 3m Long**



Code
<b>0500014231</b>
≠ 40 x 8mm

Code
<b>0500014238</b>
≠ 40 x 8mm

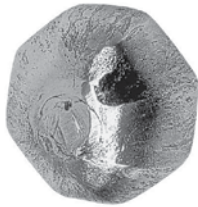
Code
<b>0500014239</b>
≠ 30 x 8mm

Code
<b>05000142310</b>
≠ 30 x 8mm

Code
<b>05000142311</b>
≠ 53 x 9mm

Code
<b>05000142312</b>
≠ 47 x 14mm

**Forged Spheres**



Code
<b>0500014256</b>
Ø 30mm

Code
<b>0500014257</b>
Ø 35mm

Code
<b>0500014258</b>
Ø 40mm

Code
<b>0500014259</b>
Ø 50mm

**Handrail Ends**



Code
<b>0500014241</b>
For use with Code: <b>0500014231</b>

Code
<b>0500014248</b>
For use with Code: <b>0500014238</b>

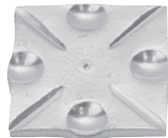


**Post Tops**



Code
<b>0500014251</b>
Ø 70mm Height 120mm

**Plate**



Code
<b>0500014266</b>
■ 80mm

8mm thick

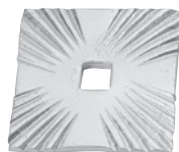
**Flower**



Code
<b>0500014267</b>
Ø 90mm Ø 12mm hole

4mm thick

**Plate**



Code
<b>0500014268</b>
■ 75mm □ 12mm hole

4mm thick



Aluminium

Mild steel

Galvanised steel



**High Strength Retainer**

For use with tube fittings



Code	ml
1899007638XS	3
1899007638	50

**Adhesive Activator (150ml)**

Reduces curing time when used with Loctite 638



Code
18990087649

**Instant Adhesive (50ml)**

Supplied with plunger and needle for accurate application. Use with 601 and 602 range



Code
1899007454

**Stainless Steel Cleaner (400ml)**

Degreases and cleans surfaces ready for gluing



Code
18990097063

**Stainless Cleaning Wipe**

Removes finger and hand marks left over after installation



Code
189900901

**After Care Tea Staining 3-Part Cleaner Kit**

Keeps stainless handrail and fittings in top condition long after installation



Code
189900902

**Stainless Cleaning Gel (2kg)**

Pickling gel helps remove rust, dirt and grime from stainless steel



Code
18990094023

**Polishing Cloths**

For removal of light scratches on stainless tube and fittings



Code	Description
189901101	Fine (Grey)
189901102	Medium (Red)

**Silicone Sealant (310ml)**

Gives an all-round waterproof seal



Code	Description
18990125366	Clear Sealant
18990125368	Black Sealant

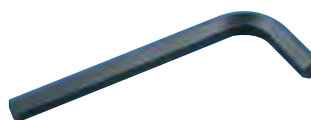
**Sealant Gun**



Code	Description
189900666	Sealant Gun

**Allen Key**

For use with all glass clamps



Code	Description
189900605	For 8mm bolts
189900606	For glass clamp post bolt
189900607	Grub screws on handrail brackets
189900608	For 6mm bolts
189900627	For PanelGrip (size 3/16")

**Threaded Lengths**



Code	Size mm
189900615	8 x 20
189900640*	10 x 150
189900641*	12 x 150
189900625	6 x 25
189900685	8 x 110
189900688	16 x 300

\*For use with RKEM+ Chemical Fixing Compound

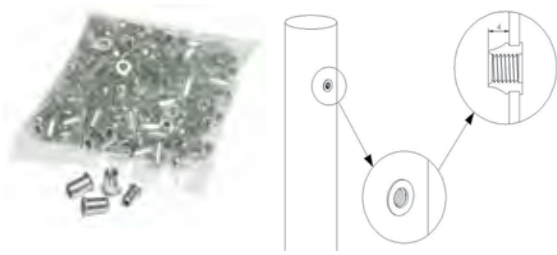
304 Internal

316 External

Zinc



**Threaded Inserts and Mandrels**  
Threaded inserts with cylindrical flat head



Code	Thread mm
13i40591	5
13i40592	6
13i40593	8
189900611	5
189900609	6
189900610	8

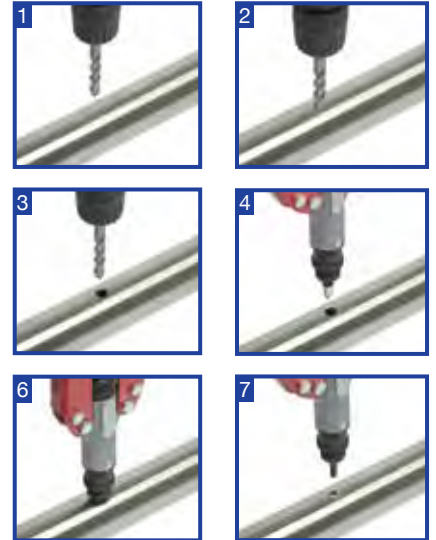
**Threaded Insert/Mandrel Tool**

For fixing 5, 6 and 8mm bolt to posts when used with the correct mandrel



Code
1899E40590
13E40590*

\*Comes with box



**Rockite Concrete Compound (2.2kg)**  
Re-sealable tub



Code
189900665

**Polyester Resin (300ml)**  
Polyester styrene free



Code
189900663

**Wire Mesh Sleeve**  
Cut to required length  
Use with Polyester Resin



Code
189900664

1m Wire Mesh Sleeve  
For 10/12mm Studs

**RKEM+ Chemical Fixing (300ml)**



Code
05RKEM

**Hand Plier Riveter**



Code	Size mm
189900667	3.2 - 6.4

**Lazy Tong Riveter**



Code	Size mm
189900668	3.2 - 6.4

**Dome Aluminium Rivets**



Code	Size mm
189900671	3.2 x 10
189900672	3.2 x 12
189900673	4.0 x 6
189900674	4.0 x 12
189900675	4.8 x 6
189900676	4.8 x 12

**Dome Stainless Steel A2 Rivets**



Code	Size mm
189900679	3.2 x 6
189900680	3.2 x 12
189900681	4.0 x 6
189900682	4.0 x 12
189900683	4.8 x 8
189900684	4.8 x 12

Aluminium

Mild steel

Galvanised steel

**Wood Screws**

For fixing wooden handrails  
stainless handrail brackets



Code	Size mm
13i0382	5 x 20
13i0381	6 x 20

**Countersunk Screws**

For fixing handrail saddles



Code	Size mm
13i0383	5.5 x 22
13i0384	6.3 x 22
189900619	5 x 20

**Pan Head Screw**

For fixing handrail saddles  
to stainless tube



Code	Size mm
189900620	5 x 20

**Threaded Dowel**

For use with handrail brackets



Code	Size mm
189900622	8 x 50

**Countersunk Screws**

For general fixing



Code	Size mm
13i0385	5 x 25
13i0322	6 x 10
13i03851	6 x 25
13i032	10 x 25
189900603	6 x 20
189900604	8 x 20

**Button Head Bolts**

For fixing handrail brackets  
and rod holders 705/707



Code	Size mm
189900618	5 x 20
189900621	6 x 20

**Socket Head Cap Screws**

For fixing glass clamps into posts



Code	Size mm
13i0323	8 x 20
189900601	6 x 20
189900602	8 x 20

**Variable Fixing Bolts**

To give +/- 5° adjustment



Code	Size mm
189900602A	8 x 20

**Thread Insert & Set Screws**

For fixing wood handrail  
to stainless fittings



Code
189900626

To suit 6mm Stud

189900625
-----------

Threaded Stud 6 x 25mm

**Plain Washers**



Code	Size mm
189900631	8
189900632	10
189900633	12

**Spring Washers**



Code	Size mm
189900634	8
189900635	10
189900636	12

**Pan Head Thread Rolling Bolts**

For fixing handrail saddles  
to stainless tube



Code	Size mm
189900686	5
189900687	6

**Hexagonal Full Nuts**



Code	Size mm
189900637	8
189900638	10
189900639	12

**Hexagonal Nyloc Nuts**



Code	Size mm
189900628	8
189900629	10
189900630	12

**Hexagonal Domed Head Nuts**



Code	Size mm
189900617	8
189900650	10
189900616	12

**Plastic Nut Caps**



Code	Size mm
3204M8	8
3204M10	10
3204M12	12

Black Colour

3204M8S	8
3204M10S	10
3204M12S	12

Silver Colour

All fixings are sold individually.

304 Internal

316 External

Zinc

**Through Bolts**



Code	Thread Ø mm	Anchor Length mm	Hole Ø mm	Max Fixture Thickness mm	Fixture Clearance mm	Embedment Depth mm	Hole Depth mm	Min Structure Thickness mm	Tightning Torque Nm
16248	8	90	8	45	9	35	40	100	10
162410	10	95	10	33	12	45	50	100	28
162412	12	100	12	25	14	60	65	100	34
162416	16	105	16	10	18	75	85	110	85
162420	20	120	20	20	22	85	100	130	160
189900613 Thread Length - 35mm	8	100	8	35	9	55	65	100	15
189900614 Thread Length - 35mm	12	100	12	50	14	80	90	130	50

**Loose Bolts with Shield Anchor**



Code	Thread Ø mm	Anchor Length mm	Hole Ø mm	Max Fixture Thickness mm	Fixture Clearance Hole mm	Embedment Depth mm	Hole Depth mm	Min Structure Thickness mm	Tightning Torque Nm
189900645	8	60	14	10	10	50	55	100	14
189900646	10	85	16	25	12	60	65	120	27
189900647	12	100	20	25	14	75	85	160	46

**Sleeve Anchor - BZP**



Code	Thread Ø mm	Anchor Length mm	Hole Ø mm	Max Fixture Thickness mm	Fixture Clearance Hole mm	Embedment Depth mm	Hole Depth mm	Min Structure Thickness mm	Tightning Torque Nm
189900642	8	75	10	35	11	45	50	70	40
189900643	10	80	12	22	13	50	65	90	65
189900644	12	110	16	50	17	60	70	100	90

**Anchor Bolts - BZP**



Code	Thread Ø mm	Anchor Length mm	Hole Ø mm	Max Fixture Thickness mm	Fixture Clearance Hole mm	Embedment Depth mm	Hole Depth mm	Min Structure Thickness mm	Tightning Torque Nm
189900648	10	100	8	60	12	40	55	90	40
189900649	12	100	10	50	14	50	70	110	60

**Colbalt Drill Bits**



**Masonry Drill Bits  
Straight Shank**



**SDS Masonry Drill Bits**



Code	Description
189901001	7.2mm drill for 5mm insert/mandrel
189901002	9.6mm drill for 6mm insert/mandrel
189901003	10.5mm drill for 8mm insert/mandrel
189901004	4.3mm drill for 5mm self tapping screw
189901005	4.5mm drill for 5mm thread rolling bolt
189901006	5.5mm drill for 6mm thread rolling bolt

Code	Size mm
189900651	8 x 80
189900652	10 x 80
189900653	12 x 90
189900654	14 x 90
189900655	16 x 90
189900656	20 x 100

Code	Size mm
189900657	8 x 100
189900658	10 x 100
189900659	12 x 100
189900660	14 x 100
189900661	16 x 150
189900662	20 x 150

Aluminium

Mild steel

Galvanised steel

Grade	Carbon	Silicon	Manganese	Phosphorous	Sulphur	Nickel	Chromium	Molybdenum
<b>304</b> DIN 1.4301	<=0.08	<=1.00	<=2.00	<=0.035	<=0.035	8.00 - 10.50	18.00 - 20.00	-
<b>316</b> DIN 1.4401	<=0.09	<=1.00	<=2.00	<=0.035	<=0.035	10.00 - 14.00	16.00 - 18.00	2.00 - 3.00

There are many grades of stainless steel, but the majority of stainless steel items in this catalogue are 304 and 316.

Grade 304 is the most common stainless steel, and satisfies a broad demand for adequate performance at an affordable price. It has good corrosion resistance in a wide variety of environments. It is the best choice for indoor use (except swimming pools).

Grade 316 has a higher level of corrosion resistance and is often referred to as marine grade. Typical applications are architectural components where they are exposed to extreme weather and climatic conditions, such as near the coast, near heavy industrial sites or in/ around swimming pools.

Stainless steel is not maintenance free but maintenance friendly and when using stainless

steel material outdoors, you need to clean periodically, especially in aggressive environments like coastal areas or swimming pools. The chlorine rich atmosphere driven in from the sea can affect in-land stainless as far as 20 miles from the coast.

Choosing the correct grade can dramatically improve the corrosion resistance against chlorine, but other things should be taken into consideration.

Surface finish is a critical element in the battle against corrosion. The British Stainless Steel Association (BSSA) recommend that a surface finish of no less than  $0.5\mu\text{m Ra}$  (320 Grit) is used on all applications subjected to a chlorine rich environment. A surface any rougher than this will retain corrosive particles and rust will inevitably follow.

## STANDARDS RELEVANT TO SURFACE FINISH - BS 1449

**Part 1 - 1991** (Sections 1.1 to 1.15 replaced by EN 1088) - This standard specifies the properties of various stainless steels, and includes a general reference of six mechanically polished surfaces of different nominal grit sizes.

**Part 2 - 1983** (Amended in 1985 & 1991 and 683/13 Euronorm 88)

Nominal Grit Size	BS 1449 Pt 2	EN 1088	Description
80 -100	3A	1G/2G	Ground Ra nom $2.5\mu\text{m}$
180	3B	2J	Ground Ra nom $1.25\mu\text{m}$
240	4	1J/2J	Dull Polish Ra nom $0.6\mu\text{m}$
320	5	1K/2K	Satin Polish Ra $> 0.5\mu\text{m}$
590 - 630	7	2P	Bright Polish Ra nom $0.05\mu\text{m}$
800	8	1P/2P	Mirror Finish Ra nom $0.05\mu\text{m}$



## Degreasing

Dirt left on the surface after a fabrication process can have a serious affect on the corrosion resistance of stainless steel. Not only will it prevent the steel from oxidizing, it can contain corrosive particles, which will start rusting at a later date.

## Pickling

Pickling requires the use of strong chemicals (hydrofluoric acid and nitric acid) to dissolve the surface of the steel. This process completely removes any surface contaminants and will help to restore the chromium level to the weld affected areas.

The heat from the welding process drives chromium away from the weld area. The area adjacent to the weld is often low in chromium and high in iron. These areas are always the most susceptible to corrosion once the component is in use.

Iron dissolves more readily than chromium, therefore, the pickling process leaves the surface chromium-rich and in a condition where it can form a dense oxide layer.

## Passivation

Stainless steel will passivate in the open atmosphere - assuming that it is spotlessly clean to begin with and so is the air it is sat in. It is a slow process and, depending on the grade of stainless, can take between 24-48 hours to occur.

The chromium-oxide layer that protects stainless from corrosion is relatively fragile. It can be broken or damaged during fabrication, if scratched and/or surface contamination is allowed to settle on the surface.

The most effective way to form the passive layer is to force it by subjecting the steel to an oxidizing chemical. These are typically acid solutions containing nitric acid or citric acid. This process speeds up the reaction time and typically takes around 2-3 hours contact time to fully form a dense and effective layer.

Simply cleaning a corroded piece of stainless steel with a stainless steel cleaner and a scouring pad (usually phosphoric acid or citric acid based) does not passivate it. These acids will help to dissolve the corrosion (iron oxides) and leave the surface in a condition in which it can self-passivate.

Rain washing regularly will reduce the risk of tea staining (brown discolouration). This is a visual impairment only, and does not affect the structural integrity or longevity of the material. The best way to prevent it is to follow the cleaning chart below, but as a general rule of thumb the recommendation is that the stainless needs cleaning as often as the glass.

Remember bad design can result in poor performance e.g. partially sheltered systems will greatly reduce the benefit of natural washing by rain. Maintenance of stainless steel should be considered in the design process.

## Recommended cleaning intervals for stainless steel handrail systems

Building	Roof or wall washed by rain		Eaves, Soffits or sheltered areas not washed by rain	
	No deposits	Deposits accumulate	No deposits	Deposits accumulate
Structure				
Cleaning in rural, suburban and residential areas	4/year	6/year	12/year	24/year
Cleaning for seaside, industrial and severe areas	8/year	12/year	24/year	52/year

### Notes:

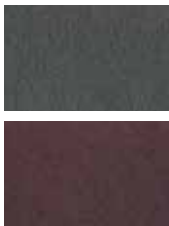
Cleaning frequency is dependant on surface finish, design details, environment, cleaning procedure and expectations of performance. Cleaning involves using Pro-Railing Enviro-Shield (189900902) - which comprises stainless steel cleaner, demineralised water and protection spray.

**Stainless steel is not self-cleaning!**

Problem	Cleaning Method	Comments
Standard cleaning	Soap and water	Sponge, rinse with clean water and wipe dry
Fingerprints	Soap and warm water or stainless steel cleaner (18990097063)	Rinse with clean water and wipe dry
Oil/grease marks, other stains and light discolouration	Pro-Railing Enviro-Shield (189900902)	Follow instructions on the box
Heavy discolouration	Stainless cleaning gel (18990094023)	Rinse well with clean water then use Pro-Railing Enviro-Shield (189900902)
Scratches on satin finish (Mirror finish will need repolishing properly)	<u>Slight scratches</u> Use fine polishing cloth (189901101) coated with stainless steel cleaner (18990097063) <u>Deeper scratches</u> Use coarse cloth (189901102) first then fine cloth with cleaner (as above)	Do not use steel based cleaning products (wire wool) as this will embed in the surface and will cause further surface damage and discolouration
Paint/Graffiti	Use a generic paint stripper dependant on type of paint	Use soft bristle brush and treat afterwards with Pro-Railing Enviro-Shield (189900902)

### Polishing Cloths

For removal of light scratches on stainless tube and fittings



Code
189901101
Fine (Grey)
189901102
Medium (Red)

### Stainless Steel Cleaner (400ml)

Degreases & cleans surfaces ready for gluing



Code
18990097063

### Stainless Cleaning Gel (2kg)

Pickling gel helps remove rust, dirt and grime from stainless steel



Code
18990094023

### After Care Tea Staining 3-Part Cleaner Kit

Keeps stainless handrail and fittings in top condition long after installation



Code
189900902

The following items should be considered and are available as part of the Pro-Glass range:

### Latex Gloves

Size 8



Code
185900101

The PGK10 glove from Marigold is based around a 10 gauge 100% Kevlar liner with a natural rubber latex crinkle coating that provides good grip in wet or dry conditions, abrasion and tear resistant. The thumb is fully coated to protect the most vulnerable part of the hand.

### Protective Sleeve For Wrist

14"



Code
185900102

Granite 5 Solo, seamless knitted high cut resistant Tensilite Sleeves with thumb slot. Suitable for use in the glazing and steel industries. The unique yarn provides level 5 cut resistance. The yarn is made with a soft finish to provide exceptional comfort to the wearer.

### Clear Protective Spectacles



Code
185900103

One piece clear polycarbonate lens with anti-mist treatment. Lightweight black nylon frame with built-in brow guard. Built-in side protection with integral nose bridge and adjustable temple length. Low energy impact protection with 400nm UV protection. Hang cord attachment points. Class 1.

### Double Head Suction Cup

2 x 120mm diameter rubber suction cups. Max. lift: 70kg



Code
185900104

For use in hand lift applications only. Multiple vacuums used on a single load can only improve handling. If using more than one vacuum tool the ratio of maximum lift capacity does not increase. To lift heavier weights a larger vacuum must be used. All are fitted with a rubber suction which will not damage contact surface during the lifting action.

Generally any raised area with an unprotected edge, such as a walkway, platform or staircase, from which a fall of more than 0.5m could happen, must be fitted with a guardrail. These may be of tubular or solid construction or a combination of both.

Handrails supplied from the Pro-Rail range follow the recommendations of BS 6399 Part 1, BS 5395 and BS 6180. Usually 2 horizontal rails, consisting of a top rail and a mid-rail or alternatively a top rail and an infill panel. For staircases or ladders bounded by a wall, only a single handrail is required with a minimum hand clearance of 65mm as recommended by EEUA.

Wherever possible handrails should be continuous and follow the exposed edge of the raised platform and / or staircase. The minimum height for handrails for platforms and walkways is 100mm above the surface and for staircases the handrail height is between 900 and 1100mm above the pitch line. Handrails should finish in a swept end, either to the wall, knee rail or return to the upright standard.

Sharp corners, protrusions and exposed ends should be avoided and return bends should not protrude more than 350mm from the centre line of the upright. At the foot of staircases no extrusion should extend beyond the maximum extension of the stringer.

BS 5395: Part 3 recommends the minimum design imposed lateral loads that should be used in industrial situations:

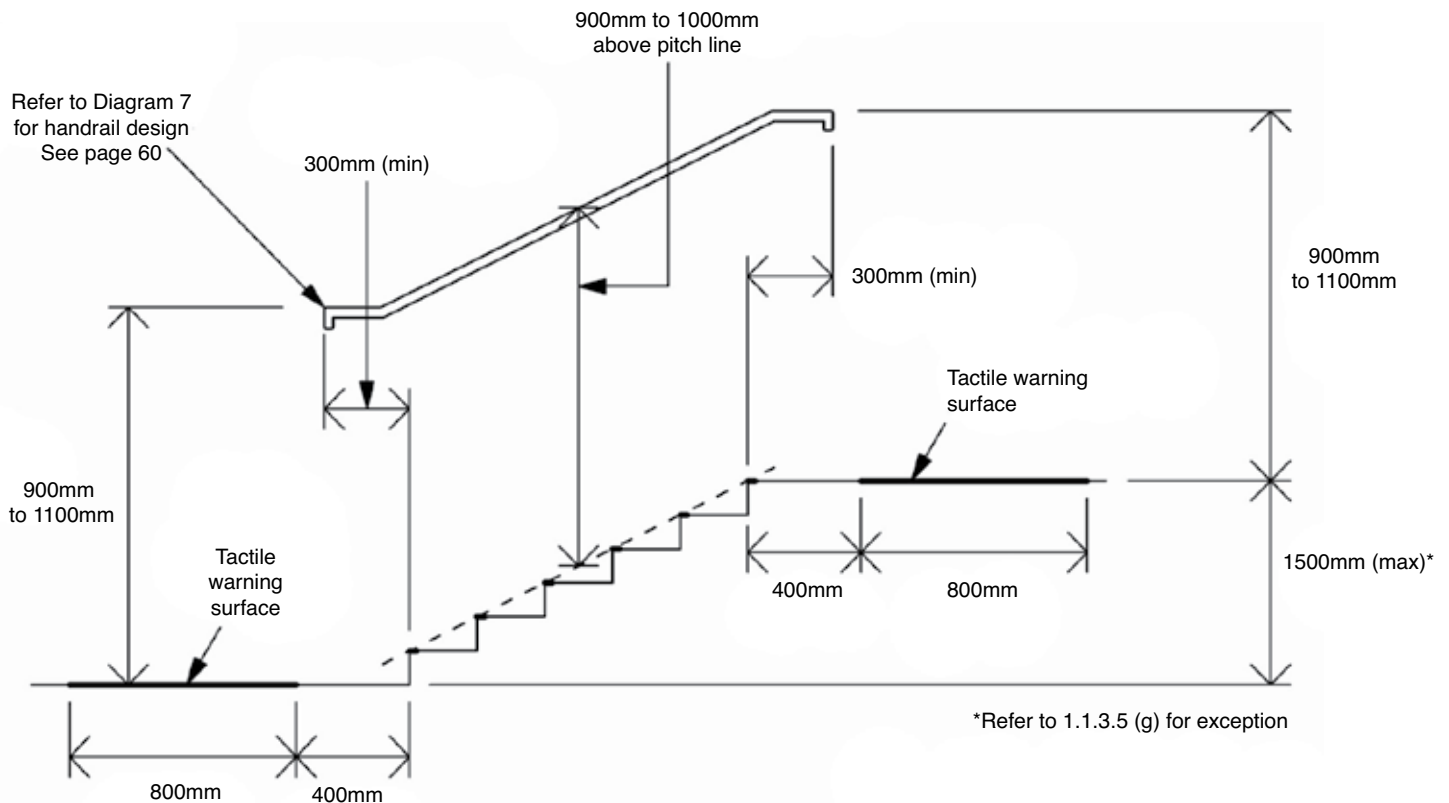
Light Duty – Access limited to one person:  
0.36kN/m

General Duty – Regular pedestrian traffic:  
0.36kN/m

Heavy Duty – High density traffic (escape route):  
0.74kN/m

Areas subject to crowding over 3m wide:  
3.00kN/m

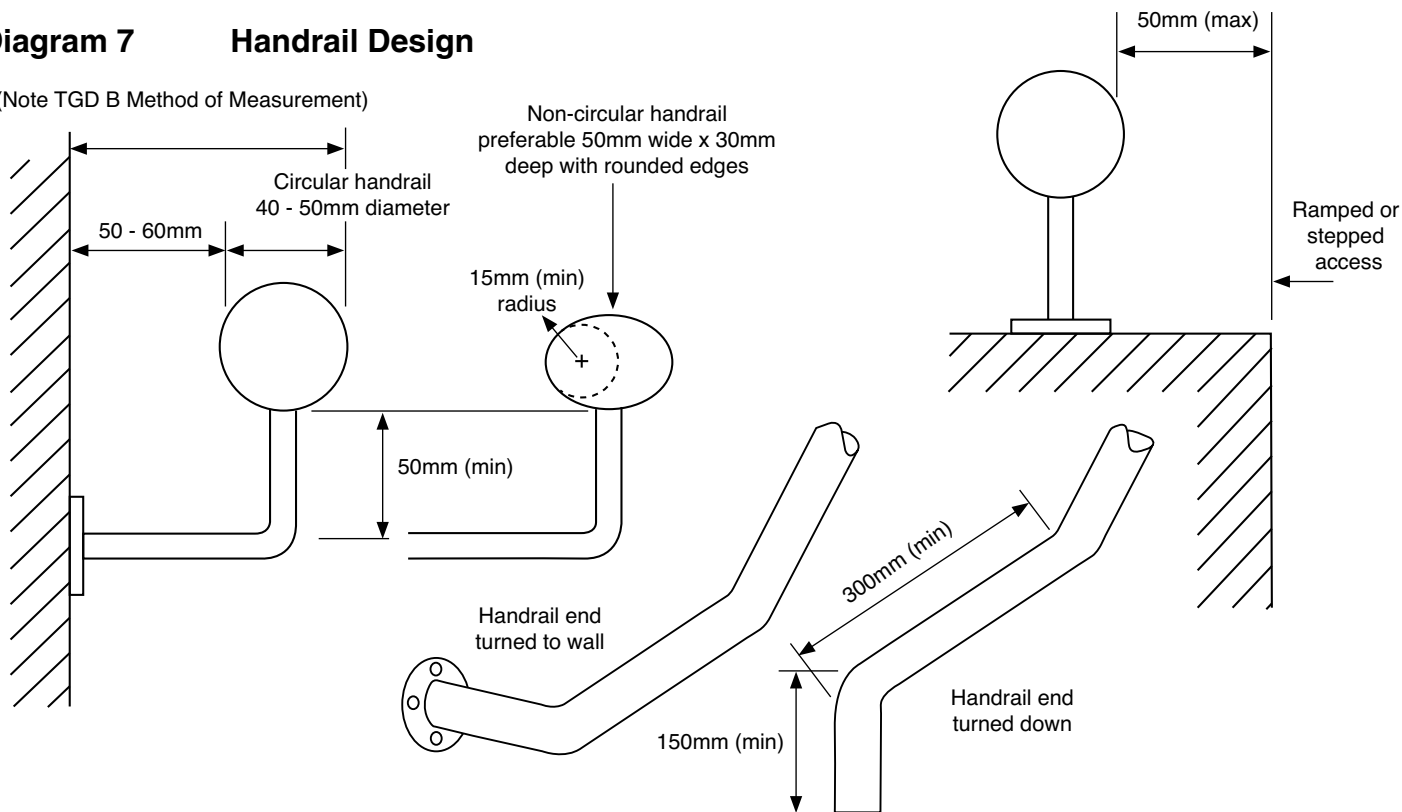
**Diagram 6 External steps and stairs - Key dimensions**



**Extract from Building Regulations Part K and Part M can be found on our website.**

**Diagram 7 Handrail Design**

(Note TGD B Method of Measurement)



**Extract from Building Regulations Part K and Part M;**

**1.1.3.6 Handrails**

General guidance on handrails and guarding is given in TGD K, but the guidance that follows applies to handrails on accessible access routes.

Where handrails are provided on a ramped or stepped access route:

**(a)** The vertical height to the top of the upper handrail from the pitch line of the surface of a flight should be between 900 and 1000mm and from the surface of a landing should be between 900 and 1100mm (refer to Diagram 6). Where a second handrail on stairs is provided for children or those of short stature the vertical height to the top of a second lower handrail from the pitch line of the surface of a flight should be between 600 and 700mm;

**(b)** Where there are two or more flights separated by a landing or landings, the handrails should be continuous across flights and landings, except where broken by side access routes on landings;

**(c)** Where the handrail is not continuous the handrail should extend at least 300mm beyond the top and bottom of a ramped approach and the top and bottom risers of a stepped approach, and terminate in a closed end which does not project into a route of travel. Handrails should be terminated in such a way that reduces the risk of clothing being caught;

**(d)** The background against which the handrails are seen should contrast visually without being highly reflective (refer to 1.6.4);

**(e)** The profile should be either circular with a diameter of between 40 to 50mm or oval with a width of 50mm (refer to Diagram 7);

**(f)** Handrails should not protrude more than 100mm into the surface width of the access route where this would impinge on the stair width requirement of TGD B – Methods of Measurement;

**(g)** There should be a clearance of at least 50mm to 60mm between the handrail and any adjacent wall surface (refer to Diagram 7);

**(h)** There should be a clearance of at least 50mm between a cranked support and the underside of the handrail (refer to Diagram 7). The handrail support should meet the handrail centrally on its underside. Rationale: This will minimise the risk of the handrail supports interrupting the smooth running of a person's hand along the rail;

**(i)** The handrails inner face should be located no more than 50mm beyond the surface width of the access route (refer to Diagram 7);

**(j)** Handrail fixings should be designed to meet the loading recommendations of I.S. EN 1991-1-1:2002.



**Table 4 - Minimum horizontal imposed loads for parapets, barriers and balustrades, etc.  
Based on Page 9, Table 2 of the BS 6180:2011 publication Fourth edition March 2011**

Type of Application	Examples of specific use	Horizontal uniformly line load (kN/m <sup>2</sup> )	Infill Panel	PanelGrip or PanelWedge				
			10mm Monolithic	15mm Monolithic	19mm Monolithic	17.5mm Laminated	21.5mm Laminated	
Domestic and residential activities	(i) All areas within or serving exclusively one single family dwelling including stairs, landings, etc. but excluding external balconies and edges of roofs	0.36	✓	✓	✓	✓	✓	
	(ii) Other residential, i.e. houses of multiple occupancy and balconies, including Juliette balconies and edges of roofs in single family dwellings	0.74	✓	✓	✓	n/a	✓	
Offices and work areas not included elsewhere including storage areas	(iii) Light access stairs and gangways not more than 600mm wide	0.22	✓	✓	✓	✓	✓	
	(iv) Light pedestrian traffic routes in industrial and storage buildings except designated escape routes	0.36	✓	✓	✓	✓	✓	
	(v) Areas not susceptible to overcrowding in office and institutional buildings, also industrial and storage buildings except as given above	0.74	✓	✓	✓	n/a	✓	
Areas where people may congregate	(vi) Areas having fixed seating within 530mm of the barrier, balustrade or parapet	1.5	✓	n/a	✓	n/a	n/a	
Areas with tables or fixed seating	(vii) Restaurants and bars	1.5	✓	n/a	✓	n/a	n/a	
Areas without obstacles for moving people and not susceptible to overcrowding	(viii) Stairs, landings, corridors, ramps	0.74	✓	✓	✓	n/a	✓	
	(ix) External balconies and edges of roofs. Footways and pavements within building curtilage adjacent to basement or sunken areas	0.74	✓	✓	✓	n/a	✓	
Areas susceptible to overcrowding	(x) Footways or pavements less than 3m wide adjacent to sunken areas	1.5	✓	n/a	✓	n/a	n/a	
	(xi) Theatres, cinemas, discotheques, bars, auditoria, shopping malls, assembly areas, studio. Footways or pavements greater than 3m wide adjacent to sunken areas	3.0	Specialist glass design required					
	(xii) Grandstands and stadia	See requirements of the appropriate certifying authority						
Retail areas	(xiii) All retail areas including public areas of banks/building societies or betting shops. For areas where overcrowding may occur, see "Areas susceptible to overcrowding"	1.5	✓	n/a	✓	n/a	n/a	
F/G Vehicular	(xiv) Pedestrian areas in car parks including stairs, landings, ramps, edges or internal floors, footways, edges of roofs	1.5	✓	n/a	✓	n/a	n/a	
	(xv) Horizontal loads imposed by vehicles	Refer to BS 6180:2011 standard 6.3.2 & Annex A (page 39)						

**We cannot be held liable for the compliance of our components to Building Regulations and it remains the responsibility of the customer to ensure all current regulations are met.**

**Tube Clamps**



Handrail, guardrail or safety rail. Easily installed with galvanised tube available to suit.

**Warmagrip™**



A “Warm to the Touch” DDA compliant handrail component system.

**Handrail Standards & Adjustarail**



Self colour or galvanised to fit Ø 33.7, 42.4 & 48.3mm tube.

**Anti-Slip Flooring**



Provides safe entry and exit routes to schools, hospitals, offices and many more applications.

**Roof Edge Protection**



Quick easy solution to providing a safety edge around roof tops. No floor fixings required.

**Kick Plate Clamp System**



Simple and easy to install. Provides a protective barrier on open sides of walkways and platforms.



**Wrought Iron Components**



Endless design opportunities with our huge range of wrought iron components.

**Gate Automation**



Full range of CAME gate kits, motors, intercoms and accessories available from stock.

**MeshMaster™**



A full range of mesh panel fence systems to provide robust, good quality and secure solutions at a competitive price.

**Crash Barrier**



Protect people, property and plant from the damage caused from moving machinery and vehicles.

**Rotating Anti-climb Guard**



Robust, tough and corrosion resistant. Rotating anti-climb guard is lightweight, easy to handle and quick to install.

**Industrial Flooring**



Open Steel Flooring, Durbar, Gratings, Chequer Plate and much more.





# PRO-RAILING®

The Stainless Steel Handrail Component System



Pro-Railing provides a stunning finish to residential, industrial or commercial properties at an affordable price.

Specification through to installation couldn't be simpler with 1500+ components to quickly construct smart, modern handrail and balustrades with components being glued or screwed on site.



Your local Pro-Railing distributor...



**BLACKBURNS  
METALS LIMITED**

JAN 2015

**BEDFORD**

Edison Road  
Elms Farm Industrial Estate  
Bedford MK41 0HU  
☎ 01234 684 100  
bedford@blackburnsmetals.com

**EDENBRIDGE**

Commerce Way  
Edenbridge  
Kent TN8 6ED  
☎ 01732 582 700  
edenbridge@blackburnsmetals.com

**LEEDS**

Units 3 & 4,  
Benyon Park,  
Leeds LS12 6DP  
☎ 0113 386 3280  
leeds@blackburnsmetals.com

**READING**

9-10 Stadium Way,  
Reading, Berkshire  
RG30 6BX  
☎ 0118 945 5542  
reading@blackburnsmetals.com

**BRIDGEND**

Coegnant Close  
Brackla Industrial Estate  
Bridgend, Mid Glamorgan CF31 2AH  
☎ 01656 683 900  
bridgend@blackburnsmetals.com

**HAYDOCK**

Unit 6, Wilcock Road  
Old Boston Trading Estate,  
Haydock, St. Helens, Merseyside WA11 9SR  
☎ 01942 758 800  
haydock@blackburnsmetals.com

**NORWICH**

Unit C, The Frenbury Estate,  
Hellesdon Park Road,  
Norwich, Norfolk NR6 5DP  
☎ 01603 243 900  
norwich@blackburnsmetals.com

**BRISTOL**

St. Adrews Trading Estate  
Thrid Way, Avonmouth  
Bristol BS11 9YE  
☎ 0117 948 2600  
bristol@blackburnsmetals.com

**KINGSWINFORD**

Building 31, Second Avenue,  
The Pensnett Estate, Kingswinford,  
West Midlands DY6 7UE  
☎ 01384 282 630  
kingswinford@blackburnsmetals.com

**PLYMOUTH**

Unit K1, Eagle Road,  
Langage Business Park,  
Plymouth, Devon PL7 5JY  
☎ 01752 612 400  
plymouth@blackburnsmetals.com

**BLACKBURNS SPECIAL PRODUCTS**

Building 38, Second Avenue  
The Pensnett Estate, Kingswinford  
West Midlands DY6 7UN  
☎ 01384 276 419  
info@blackburnsmetals.com

Contact your local Blackburns today