







COLOUR GUIDE

The colours in the tables will help you select your products material and finish. These will also be displayed in the page footer throughout this section. Products not colour coded will state their material or finish below the table.

	Grade 304 Stainless steel (Internal)
	Grade 316 Stainless steel (External)
	Zamac (Zinc aluminium alloy)
	Zinc coated steel
	Mild steel
	Galvanised steel
	Aluminium
	Duplex 2205 (Ultra marine stainless)

ICONS

Throughout this section there are various icons to help you with your product selection.

-  Diameter
-  Square Solid
-  Square Hollow
-  Technical information that can be found on our website
-  Handy tip for quicker and more effortless installation
-  Important note, please read

**TESTED TO
BS 6180**

UK standard for the construction of barriers in and around buildings

All stainless steel fittings are supplied in a satin polish finish grit 320. They can also be supplied in a mirror polish finish.

PRO-RAILING®



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REAL TIME DESIGN

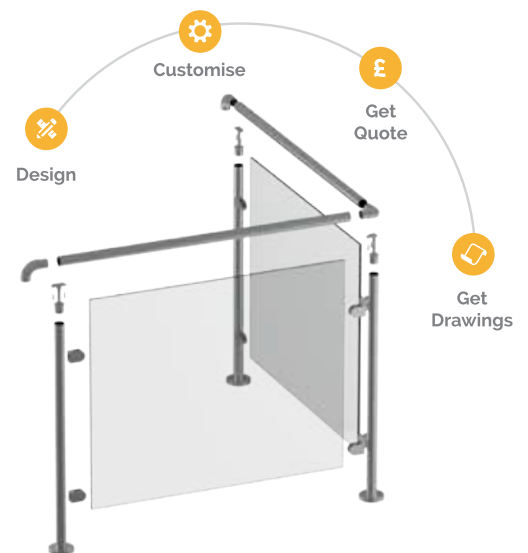


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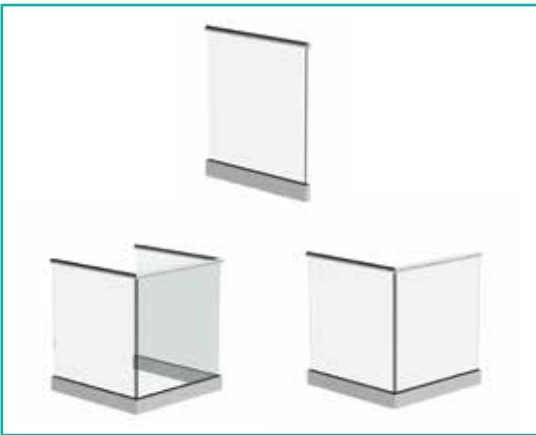
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**SIMPLY CHOOSE A SYSTEM, SELECT A TEMPLATE
AND CONFIGURE TO YOUR SPECIFICATIONS.**

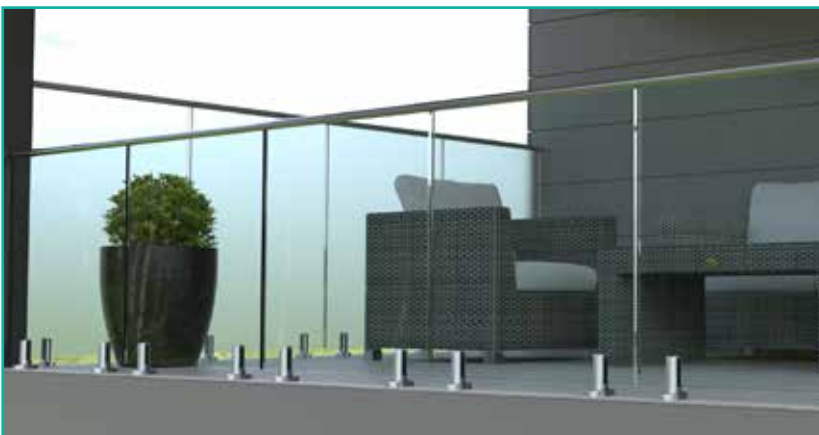
PRE-ASSEMBLED POST SYSTEMS



FRAMELESS GLASS BALUSTRADE SYSTEMS



GLASS SPIGOT SYSTEMS



AND MORE COMING SOON!

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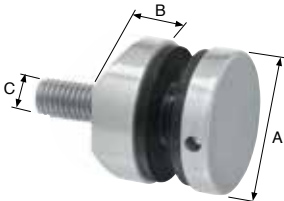
GLASS STAND-OFF ADAPTORS



FLAT BACK

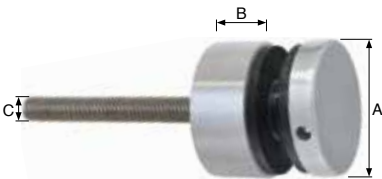


GLASS ADAPTOR
For use with round posts



Ø mm	(A) Ø mm	(B) mm	(C) mm	Glass mm	Glass Hole Size Ø mm	Code
42.4	30	15	8	6 - 12	15	1802404C
48.3	30	15	8	6 - 12	15	1802404D
42.4	50	10	10	8 - 19	22	1804454C
48.3	50	10	10	8 - 19	22	1804454D
42.4	30	15	8	6 - 12	15	1806404C
42.4	50	10	10	8 - 19	22	1806454C
48.3	30	15	8	6 - 12	15	1806404D
48.3	50	10	10	8 - 19	22	1806454D

SOLID
Flat front



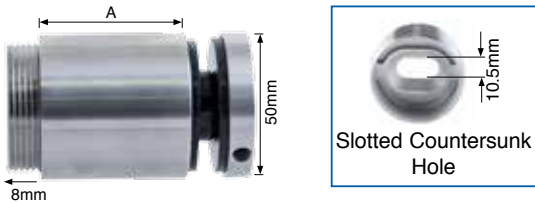
(A) Ø mm	(B) mm	(C) Ø mm	Glass mm	Glass Hole Ø mm	Satin Polish Code	Mirror Finish Code
30	15	8	6 - 12	15	1802404F	—
30	15	8	6 - 12	15	1806404F	1806404FM
50	20	10	8 - 19	22	1806455	1806455M
50	30	10	8 - 19	22	1806456	1806456M
50	40	10	8 - 19	22	1806457	1806457M
50	50	10	8 - 19	22	1806458	1806458M

SOLID
Domed front



Glass mm	Glass Hole Ø mm	Satin Polish Code	Mirror Finish Code
8 - 19	22	1804454F	—
8 - 19	22	1806454F	1806454FM

ADJUSTABLE HOLLOW
Flat front



(A) mm	Glass mm	Glass Hole Ø mm	Satin Polish Code	Mirror Finish Code
20	12.76 - 25.52	26	1806459	1806459M
30	12.76 - 25.52	26	1806460	1806460M
40	8.00 - 25.52	26	1806461	1806461M
50	8.00 - 25.52	26	1806462	1806462M

INTERNAL THREADED ANCHOR
For use with adjustable stand-off adaptor (above)



Description	Thread Ø mm	Drill mm	Hole Ø mm	CE	Code
Internal Threaded Anchor	10	110	18	✓	1899006112

Overall length of Internal Threaded Anchor is 90mm. Usable thread length is 23mm.

Fixing bolt not supplied. Use code: 1899006112.

SPANNER



To Suit Ø mm	Code
30 - 50	189900104

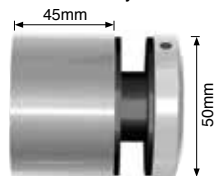
GLASS STAND-OFF ADAPTORS

PRODUCT FEATURES:

- Through glass adjustment 8mm after glass fitted
- Up to 12mm multi-directional adjustment on wall
- No need to access behind glass once fitted
- No grub screws for smooth bind free assembly
- Ultra slim 1 piece head design model
- Saves time on installations

ADJUSTABLE STAND-OFF

With multi adjustment



Glass mm	Glass Hole Ø mm	Satin Polish Code
10 - 21.52	24	1806463

Up to 8mm adjustment from wall. Requires M10/12 threaded rod for wall, code: **1899006123**.

ADJUSTMENT TOOL



Code
189900105

LAG SCREW

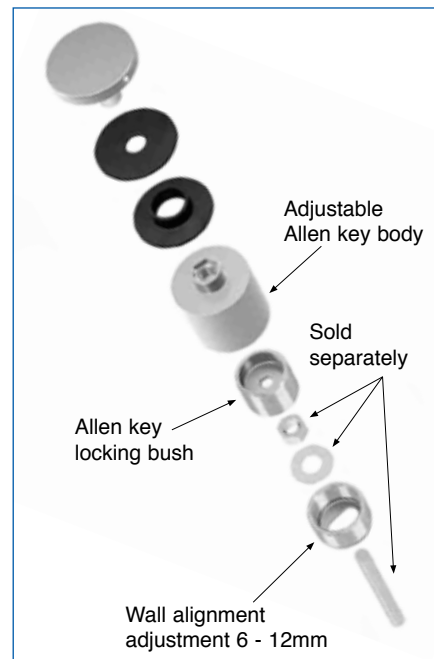
With Allen key head



Size mm	Code
M 12 x 120	1899006124

Please order nut code: 189900639 and washer code: 189900633.

EXPLODED VIEW



WALL ALIGNING ADJUSTMENT 6 - 12mm

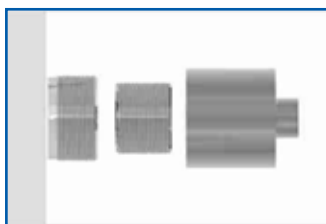


Adjust wall mount to get more alignment.

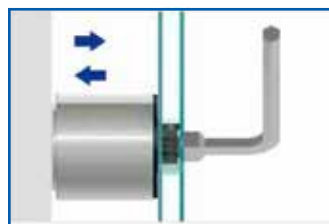


Use washer and nut to set up the wall mount. Nut code: 189900639. Washer code: 189900633.

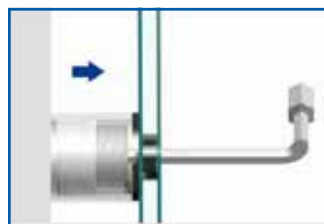
HORIZONTAL ADJUSTMENT FROM WALL



Fit locking bush to end and fit body by winding around 2mm off wall.



Align bodies by winding in or out by adjusting tool.



When aligned use adjusting tool to wind out the locking bush to the end of align body to make fast.



Up to 8mm glass adjustment from the wall. All horizontal glass adjustments can be made with glass installed.

GLASS CONNECTOR

DOMED FRONT & BACK



Ø mm	Glass mm	Code
50	12 - 20.5	1806454





FEATURES:

- Economic frameless glass solution
- For use with 10 - 21.5mm glass
- Duplex 2205 (ultra marine stainless) option, stronger & reduced cleaning frequency when compared to Grade 316

DUPLEX ROUND SPIGOT

No holes in glass needed



Not structurally tested

Finish	Code
Satin	1822009
Mirror	1822009M

To suit 12 - 15mm glass.

GRADE 316 COVER PLATE

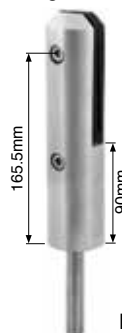
To suit duplex round spigot



Finish	Code
Stainless	1822009CP
Mirror	1822009MCP

GRADE 316 ROUND SPIGOT

Holes in glass needed



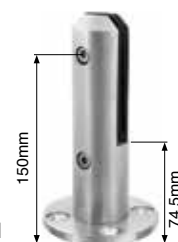
Not structurally tested

Glass Thickness mm	Code
10 - 12	1806230

Supplied with M16 x 300mm threaded length. To be used with drilled glass. Height to glass from base is 90mm.

GRADE 316 ROUND SPIGOT

Holes in glass needed



Glass Thickness mm	Code
10 - 15	1806231

To be used with drilled glass. Height to glass from base is 74mm.

SQUARE SPIGOT

No holes in glass needed



Glass Thickness mm	Code
12 - 21.52	1822010

Supplied with nut socket. To be used with M12 threaded fixing.

PACKING SHIM

No holes in glass needed



Code
1822010S

Thickness 3mm.

ROUND SPIGOT

No holes in glass needed



Description	Glass Thickness mm	Code
Round spigot	10 - 21.5	1822007
Cover plate	—	1822007CP

Height to glass when packer fitted is 45mm.

LOCATOR NUT

For use with cover plate



Thread Ø mm	Code
M12	1829012N

Excess thread to be cut off after installation.

SQUARE SPIGOT

No holes in glass needed



Description	Glass Thickness mm	Code
Square spigot	10 - 21.5	1822008
Cover plate	—	1822008CP

Height to glass when packer fitted is 45mm.

COVERED LOCATOR NUT

For use instead of cover plate



Thread Ø mm	Code
M12	1829012DN

Hides bolt thread under nut.

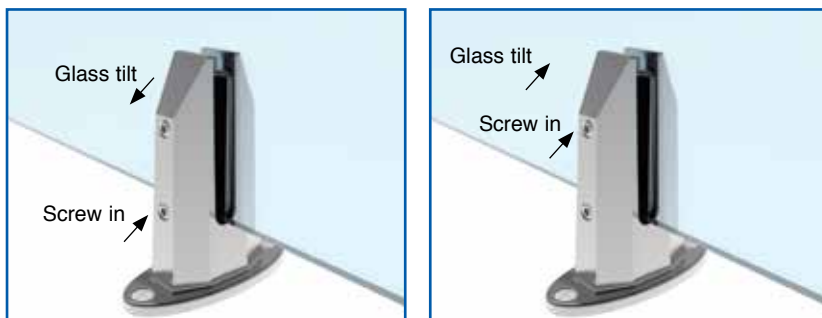


FEATURES:

- Duplex 2205 (ultra marine stainless)
- Satin polish
- New adjustable tilt-lock technology
- Adjustment from one side

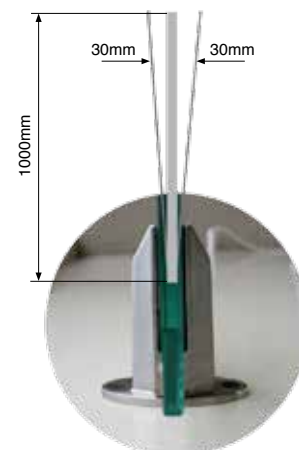
SPIGOT
SPECIALIST

TILT-LOC™ TIGHTENING



Level by hand and tighten the grub screws once in position for a perfect finish in half the time compared to a standard non adjustable spigot. The Tilt-Loc™ system can easily be hand adjusted from one side by one person.

TILT-LOC™ ADJUSTMENT



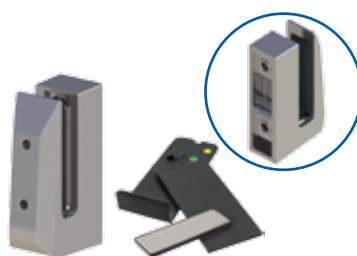
TILT-LOC™ - BOLT DOWN



Glass mm	Height to Glass with Packer mm	Code
12 - 17.52	51	1822001
19 - 25.52	46	1822002

Cover plate included.

TILT-LOC™ - SIDE



Glass mm	Height to Glass with Packer mm	Code
12 - 17.52	39	1822003
19 - 25.52	44	1822004

TILT-LOC™ - EDGE



Glass mm	Height to Glass with Packer mm	Code
12 - 17.52	43	1822005
19 - 25.52	43	1822006

PRO-RAILING®

Rattling cover plate?
Just add a dab of
silicone, see page 737.



NUT SOCKET

For use with Tilt-Loc™ - Side



Code
1829002

ALIGNMENT GAUGE

For use with Tilt-Loc™ - Side



Code
1829001

SPIG-LITE PRO



RESIDENTIAL BALUSTRADE SOLUTION



Using the same clamping and adjusting method as our Posi-Glaze balustrade system to give a quick and easy installation, Spig-Lite Pro can be bolted directly into the substrate without the need for a channel, ensuring clean lines and greater glass visibility. Our channel free system allows a 32mm gap between the substrate and glass enabling free dispersal of water.

With only two spigots required per metre of glass and only a single bolt per spigot, this system is currently one of the fastest to install on the market. Our trapezoidal adjustment device ensures each panel of glass can be horizontally adjusted once in position, guaranteeing alignment and efficient installation.

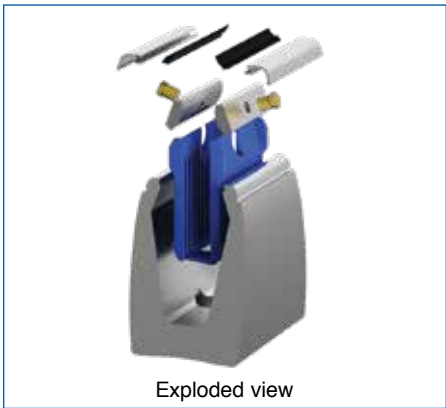
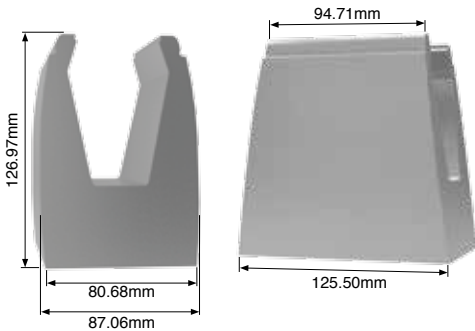
SPIG-LITE PRO KIT



Glass mm	Height to Glass with Packer mm	Code
12.0	32	180500112
15.0	31	180500115
21.5	30	1805001215

Kit includes: 2 x glass spigots, 2 x glass clamps, 4 x top clips, 4 x gasket sections and 1 x spanner. Sold in pairs.

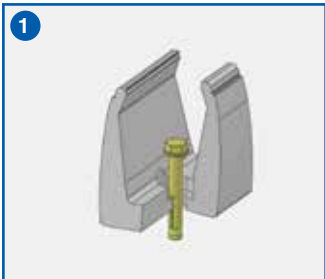
SPIGOT PROFILE



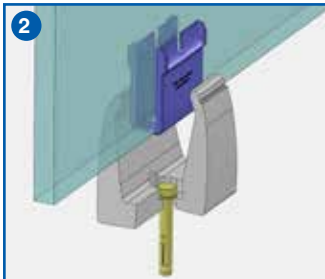
Exploded view

SUITABLE FOR FIXING TO VARIOUS SUBSTRATE INCLUDING CONCRETE & STEEL.

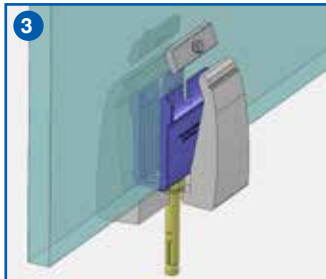
INSTALLATION



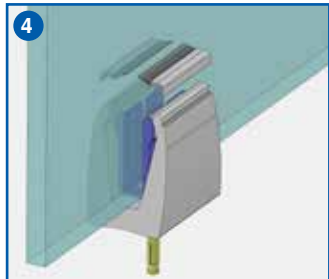
Bolt the spigots to the substructure (only 2 spigots required per metre).



Firmly squeeze the clamps around the glass and lower into the spigots.



Thread the bolt in the clamp bar and position them within the moulded clamp area. Adjust and lock the glass in position by using the screw.



Slip the gasket into the top recess of the top bead. Apply adhesive to the top bead and place on the spigot.

FOR OUR RANGE OF GLASS PANELS, SEE PAGE 617.

- Systems to suit 10 - 33mm glass
- Aluminium, anodised aluminium or mill/raw
- Side or base-fix options

- Adjustable for ease of use
- Satin polish or mirror finish
- Tested to British Standards



PRO-LITE
See page 540



WEDGE-LOC® SLIM
See page 542



PANELGRIP®
See page 544



TILT-LOC™
See page 544a



POSI-GLAZE
See page 546



ORIGIN-R
See page 548



MEGA-GRIP 3kN
See page 550



ONLEVEL TYPE 6020 & 6021
See page 552



ONLEVEL TYPE 3010
See page 555



ONLEVEL TYPE 3011
See page 556



PRO-LITE CHANNEL SYSTEM



**MAXIMUM SPAN
BETWEEN POSTS IS 3m**

**TESTED TO
BS 6180**

Our lightest and most cost effective frameless glass aluminium channel yet. This system is tested to BS6180. To achieve loadings a maximum span of 3 metres is permitted between posts. Channel and tube are easily cut to suit gaps between posts of 3 metres and channel fixing holes can be drilled to suit on site. All the components are manufactured from aluminium with a satin anodised finish.

SPLIT TUBE



To Suit Glass mm	Code
10	7605705503

Includes gasket.

ADJUSTABLE BRACKET

Wall/post



Ø mm	Code
50	760522950

Includes fixings.

BASE-FIX CHANNEL



Glass Thickness mm	Length m	Code
10	3	7605430B

Channel includes a groove in the side and base to help locate drill tip.

Images show adjustable bracket code: **760522950** fixing to various posts.



Fixing to wooden post.



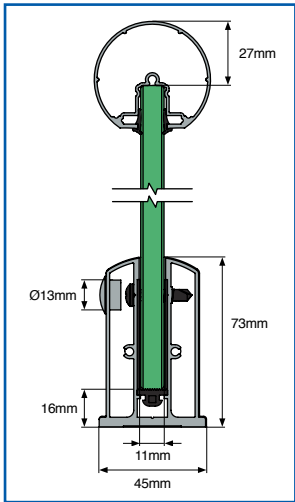
Fixing to steel post.



Fixing to PVC post.



Fixing to concrete post.



CHANNEL INCLUDES:

- 1 x 3m channel
- 2 x End caps and screws
- 4 x Screws to clamp channel together with cover caps
- 2 x 3m PVC packers
- 1 x 3m base gasket

**AN IDEAL COST
EFFECTIVE,
CONTEMPORARY
DECKING
BALUSTRADE.**



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REAL TIME DESIGN



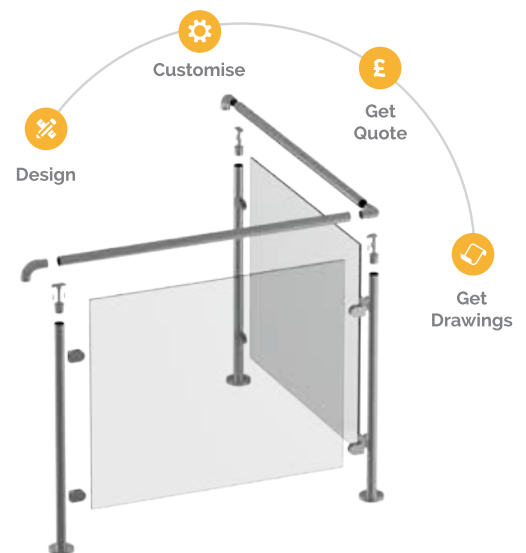
**FOR MORE INFORMATION
SEE PAGE 532.**

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WEDGE-LOC™ SYSTEM



SLIM CHANNEL



TESTED TO
BS 6180

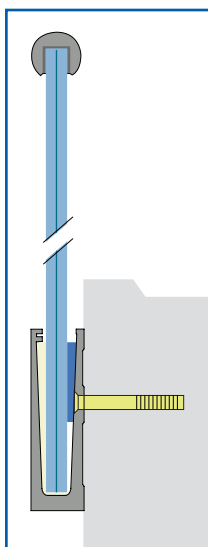


FEATURES:

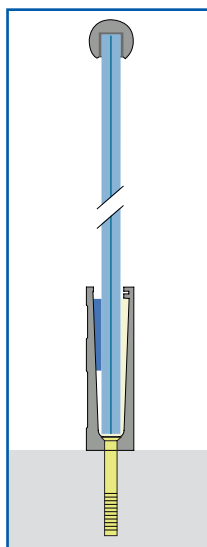
- Satin anodised finish
- Stainless cladding not required
- Great value
- Quick to install
- Pre-drilled channel fixing holes
- Height to glass when packer fitted is 13mm
- Packer height 2mm

INSTALLATIONS

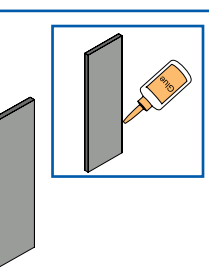
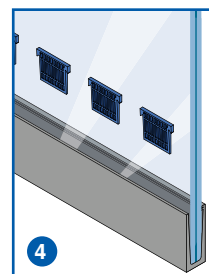
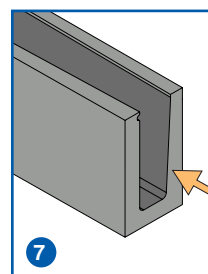
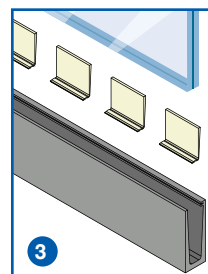
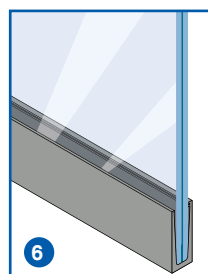
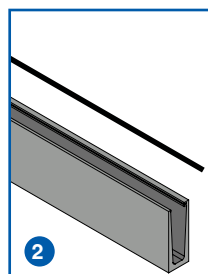
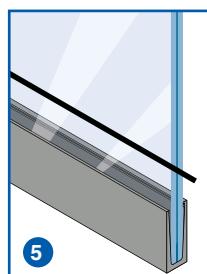
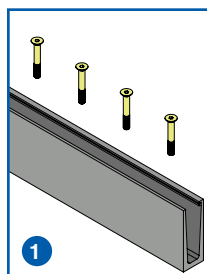
BASE FIX INSTALLATION:



SIDE FIX



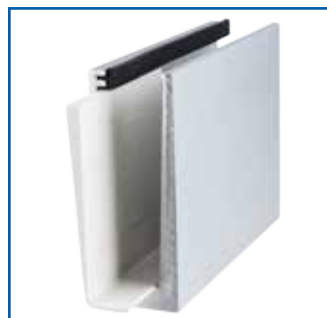
BASE FIX



We recommend using a Fischer High Performance Anchor countersunk screw for the channels code: **1899006121**.

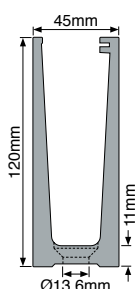


CAN BE USED IN CONJUNCTION WITH OUR TOP RAIL SYSTEMS, PLEASE SEE PAGE 559.



PRO-RAILING®

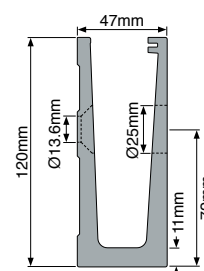
BASE FIX CHANNEL



Glass Thickness mm	Length m	Code
12 - 21.5	2.5	1805440BSA
12 - 21.5	5.0	18054405BSA

Channel fixing holes are Ø 13.6mm at 100mm centres to suit a Ø 12mm bolt with a Ø 22mm countersunk head. Height to glass when packer fitted is 13mm. Anodised.

SIDE FIX CHANNEL



Glass Thickness mm	Length m	Code
12 - 21.5	2.5	1805440SSA
12 - 21.5	5.0	18054405SSA

Channel fixing holes are Ø 13.6mm at 250mm centres to suit a Ø 12mm bolt with a Ø 22mm countersunk head. Height to glass when packer fitted is 13mm. Anodised.

INTERNAL 90° CORNER

For use with base fix channel



Code
1805440BIC

Inside length 155mm each side.
Outside length 200mm each side.

EXTERNAL 90° CORNER

For use with base fix channel



Code
1805440BEC

Inside length 155mm each side.
Outside length 200mm each side.

INTERNAL 90° CORNER

For use with side fix channel



Code
1805440SIC

Inside length 155mm each side.
Outside length 200mm each side.

EXTERNAL 90° CORNER

For use with side fix channel



Code
1805440SEC

Inside length 155mm each side.
Outside length 200mm each side.

GASKET SET



Glass Thickness mm	Code
12.00 - 12.76	180544112
13.52	180544113
15.00	180544115
16.76	180544116
17.52	180544117
19.00	180544119
20.76	180544120
21.50	180544121

Supplied with rubbers and wedges.
To suit 2.5m long channel.

END CAP



Code
1805442E

PLUG

For side fix channel



Code
1805444PP

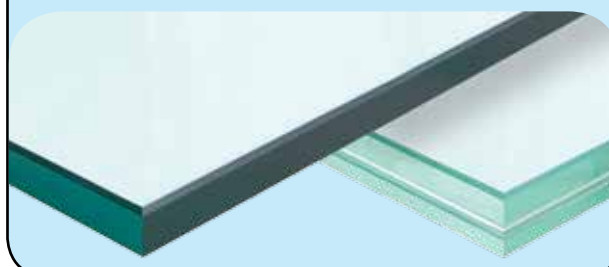
Plastic.

WEDGE INSERTION & REMOVAL TOOL



Code
180599001

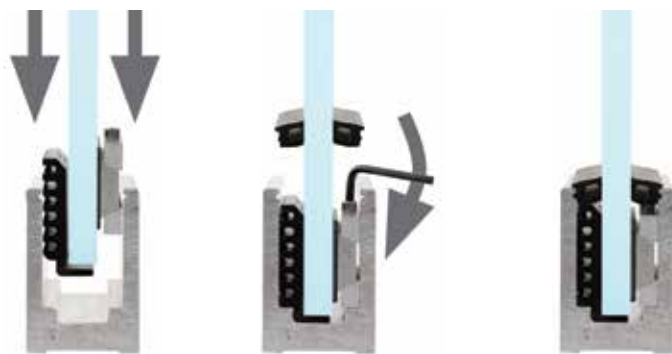
FOR OUR FULL RANGE OF
GLASS PANELS SEE PAGE 617
OR VISIT
www.fhbrundle.co.uk



PANELGRIP® SYSTEM



TESTED TO
BS 6180



Locate

Lock

Leave

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

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.

THE BENEFITS OF PANELGRIP ARE:

• ADJUSTABLE

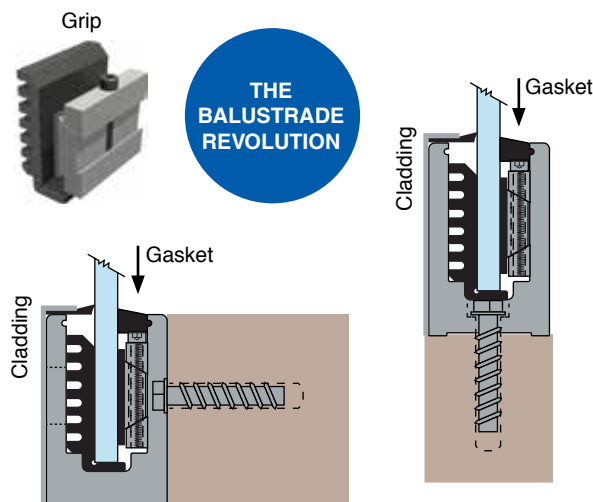
The PanelGrip® design enables the system to be simply adjusted and readjusted when installed

• REDUCE LABOUR COSTS

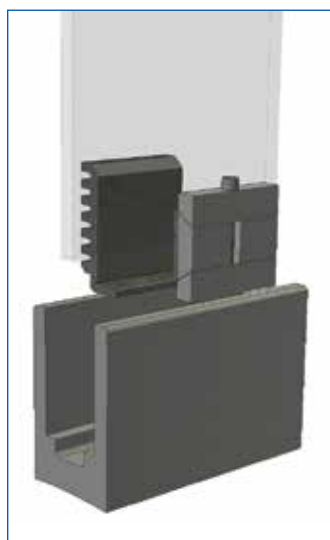
No sealing of the shoe, no setting blocks, no plumbing of glass, no multiple pours of cement, no waiting for cement to cure; no messy clean-up

• SIMPLE INSTALLATION

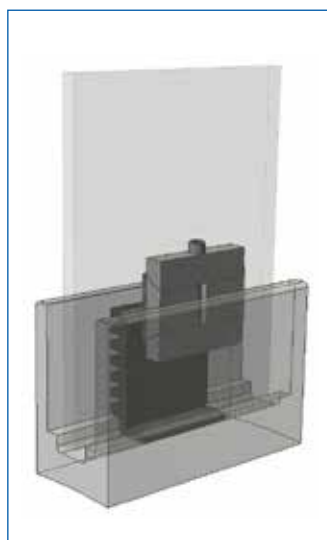
All you need is an Allen key for installation or removal of glass



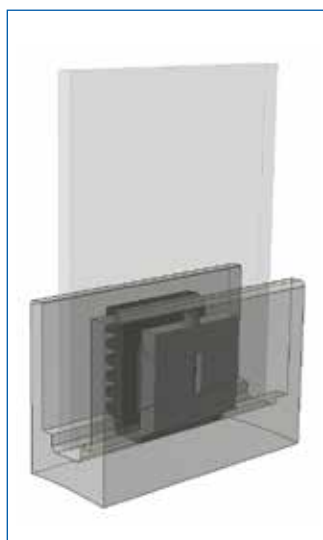
TO SEE HOW SIMPLE THIS SYSTEM IS TO
INSTALL & ALSO FOR TEST DATA & LOADING
CALCULATIONS, VISIT www.fhbrundle.co.uk



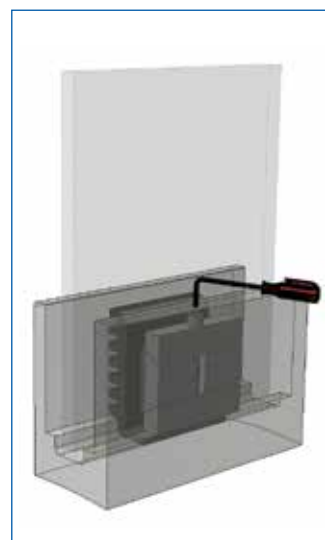
1 Place Dry Mount Grips into shoe moulding



2 Insert PanelGrip on the opposite side



3 Tighten PanelGrip mechanism



4 Confirm alignment and fully tighten

PRO-RAILING®

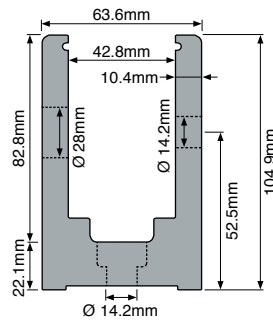
304 316 Zinc Zamac Mild steel Galvanised Aluminium Duplex

CHANNEL



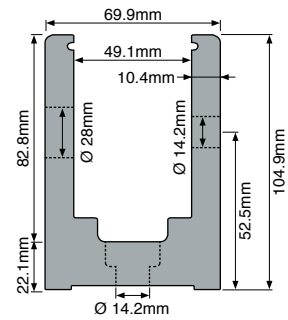
460 SERIES

Suitable for 12 & 15mm glass



466 SERIES

Suitable for 17.5, 19 & 21.5mm glass



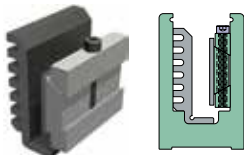
Fixing Type	Glass Thickness mm	Length m	Series	Code
Base	12.0	3.048	460	1805460B
	15.0	3.048	460	1805460B
	17.5	3.048	466	1805466B
	19.0 & 21.5	3.048	466	1805466B

Channel fixing holes are Ø 14.2mm at 203.42mm centres to suit Ø 12mm bolts. Height to glass when packer fitted is 27mm.. Supplied non-anodised.

Fixing Type	Glass Thickness mm	Length m	Series	Code
Side	12.0	3.048	460	1805460S
	15.0	3.048	460	1805460S
	17.5	3.048	466	1805466S
	19.0 & 21.5	3.048	466	1805466S

Channel fixing holes are Ø 14.2mm at 203.42mm centres to suit Ø 12mm bolts. Height to glass when packer fitted is 27mm. Supplied non-anodised.

GRIP



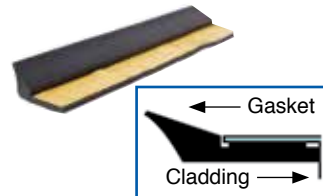
GASKET

For use without cladding



GASKET

For use with cladding



CLADDING TAPE

Double sided



Glass Thick mm	Grip
12.0	1805461B
15.0	1805461
17.5	1805461B
19.0 & 21.5	1805461

Please order 5 grips per metre.

Description	Size mm	Code
Internal use	18 x 14	18054621S
External use	18 x 14	18054621

1m long.

Length m	Size mm	Code
1	26 x 6	18054631

Length m	Code
50	1805453

END CAP



MIRROR FINISH END CAP



Series	Code
460	1805467
466	1805468

Series	Code
460	1805467M
466	1805468M

CLADDING



MIRROR FINISH CLADDING



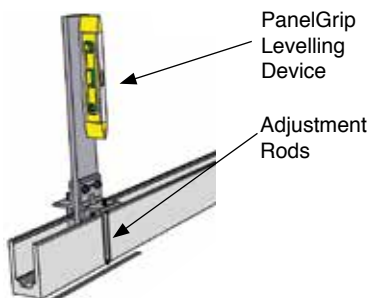
Size mm	Code
105 x 20.6 x 0.8	18044653
105 x 20.6 x 0.8	18054653

3m long.

Size mm	Code
105 x 20.6 x 0.8	18054653M

3m long.

LEVELLING DEVICE



Product	Code
Plumbing bar with spirit level	1805464



ALLEN KEY



Code
189900627

FOR GLASS LOADING
GUIDELINES VISIT
www.fhbrundle.co.uk

TILT-LOC™ CHANNEL



TL86 SERIES

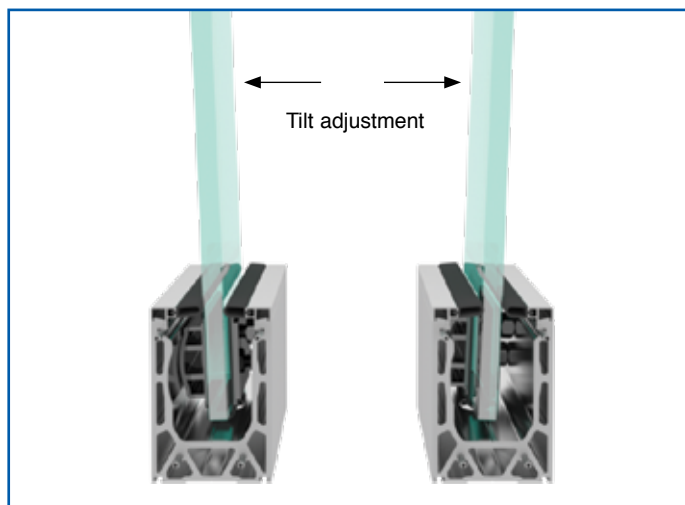


Our newest top quality aluminium Tilt-Loc™ System has a unique patented rotating pressure plate system which allows for fast easy installation of frameless glass.

FEATURES:

- Grade 6063 T6 Aluminium
- Up to 30mm tilt adjustment on glass
- Adjustment from inside the balcony
- All holes are pre-drilled and fixings can be concealed
- Suitable for glass from 12 - 25.52mm thickness
- Glass easily installed and aligned with a spanner
- Silver matt anodised finish

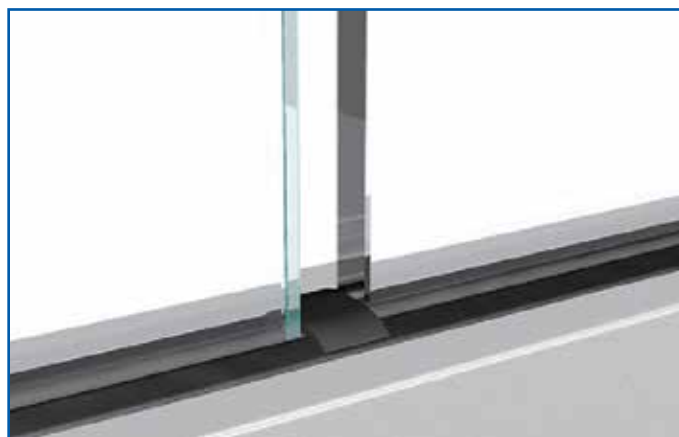
TILT-LOC ADJUSTMENT GIVES PERFECT ALIGNMENT



Up to 30mm tilt adjustment back and forward from inside the balcony.



Alignment pins x 2 included in channel kit.



EDPM dividing gasket to expel water and dirt.

A FULL RANGE OF GLASS IS AVAILABLE FROM PAGE 617.

BASE-FIX



SIDE-FIX



Glass Thickness mm	Length m	Code
12.0	3	1805540B12
15.0	3	1805540B15
17.5	3	1805540B175
19.0	3	1805540B19
21.5	3	1805540B215
25.0	3	1805540B25

Channel is supplied with 2 x top cladding, 2 x alignment pins, grips and seals.

Glass Thickness mm	Length m	Code
12.0	3	1805540S12
15.0	3	1805540S15
17.5	3	1805540S175
19.0	3	1805540S19
21.5	3	1805540S215
25.0	3	1805540S25

Channel is supplied with 2 x top cladding, 2 x alignment pins, grips and seals.

INTERNAL 90° CORNER

For base & side-fix channel



EXTERNAL 90° CORNER

For base & side-fix channel



END CAP

For base & side-fix channel



Description	Code
Base-Fix	1805540BIC
Side-Fix	1805540SIC

Inside length 64mm each side.
Outside length 150mm each side.

Description	Code
Base-Fix	1805540BEC
Side-Fix	1805540SEC

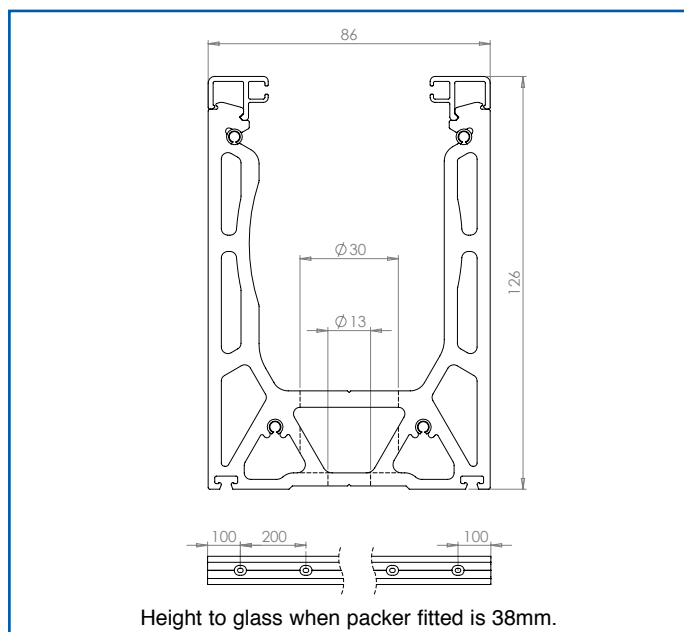
Inside length 64mm each side.
Outside length 150mm each side.

Description	Code
Base-Fix	1805547B
Side-Fix	1805547S

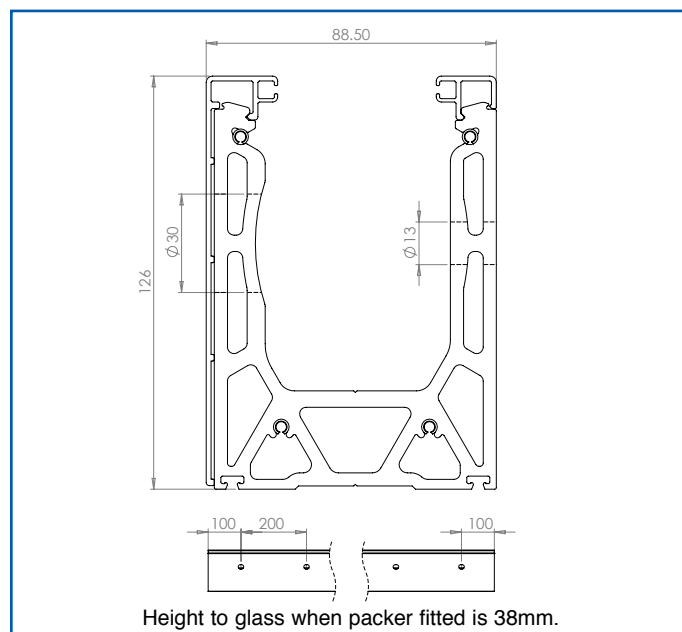
ACCESSORIES

Description	Length m	Code
Top Cladding	3	1805545B
Side Cladding	3	1805545S

BASE-FIX DIMENSIONS



SIDE-FIX DIMENSIONS



POSI-GLAZE SYSTEM

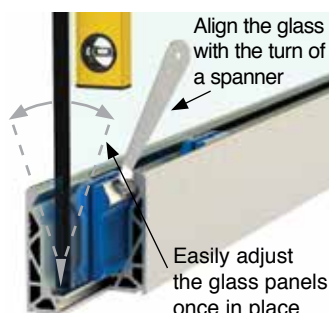


TESTED TO
BS 6180

Posi-Glaze is our innovative aluminium channel system that holds glass panels in place for use on balustrades and partitions. Posi-Glaze allows the installer to easily adjust the glass panels once in place. Simply adjust the bolt screw to align the glass. Fast and simple saving both time and money!

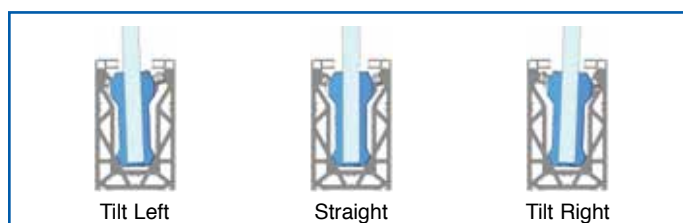
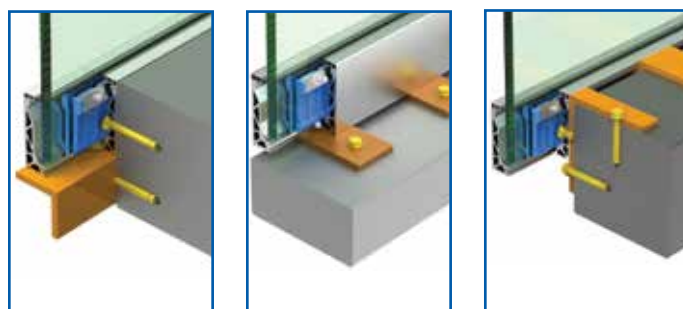
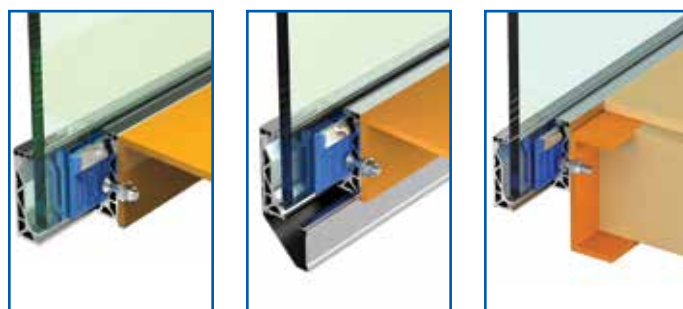
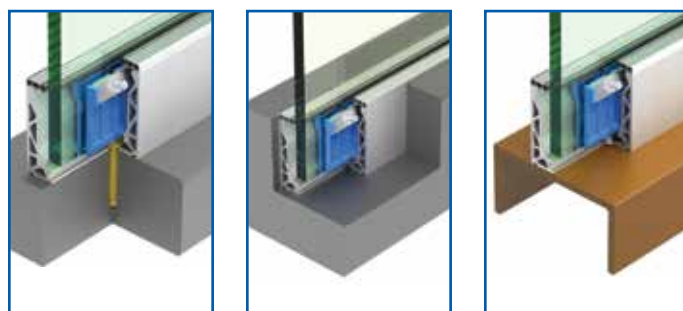
FEATURES:

- Fast install
- Fully adjustable
- Light weight and extremely strong
- Suitable for domestic and commercial applications
- Fully anodised in a stainless steel effect

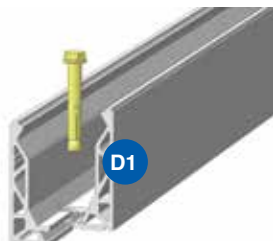


FITTING SCENARIOS

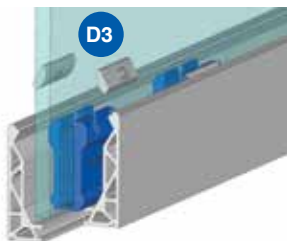
Posi-Glaze can accommodate a range of different glass sizes; 12, 15, 17.5, 19 and 21.5mm in a number of different scenarios, some of which are shown below.



SIMPLE INSTALLATION

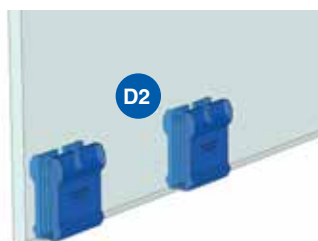


1. Fit the base channel (D1) to the substructure (details on suitable fixing can be found on our website).



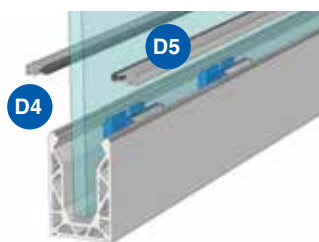
4. Place the bolt screws in the pivot clamp (D3).

5. Using the adjustment bolts; loosening one side and tightening the other, will allow the alignment of the glass with the next panel and enable plumbing of the glass.



2. Clip the glass slip clamps (D2) to the bottom edge of the glass panel (we supply different sized clamps for different glass thicknesses).

3. Position the glass in the channel.



6. Attach the cover strip (D4) and bead gasket (D5).

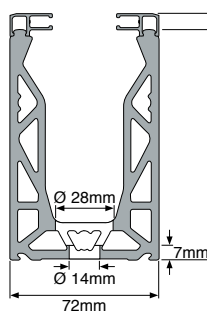
PRO-RAILING®

CHANNEL KIT

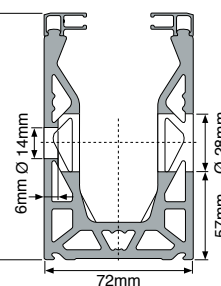
Complete with channel, clamps & seals



BASE FIX



SIDE FIX



Fixing Type	Glass Thickness mm	Length m	Height to Glass with Packer mm	Code
Base	12.0	3	24.5	1805470BM12
	15.0	3	23.0	1805470BM15
	17.5	3	22.5	1805470BM175
	19.0	3	21.5	1805470BM19
	21.5	3	22.5	1805470BM215

Channel fixing holes are Ø 14mm at 200mm centres to suit Ø 12mm bolts.

BASE FIX CHANNEL KIT INCLUDES:

- 1 x 3m aluminium channel
- 2 x top cladding
- 2 x rubber gasket seals
- 12 x clamps (4 per metre), for relevant glass thickness
- 1m channel kits available upon request

Fixing Type	Glass Thickness mm	Length m	Height to Glass with Packer mm	Code
Side	12.0	3	24.5	1805470SM12
	15.0	3	23.0	1805470SM15
	17.5	3	22.5	1805470SM175
	19.0	3	21.5	1805470SM19
	21.5	3	22.5	1805470SM215

Channel fixing holes are Ø 14mm at 200mm centres to suit Ø 12mm bolts.

SIDE FIX CHANNEL KIT INCLUDES:

- 1 x 3m aluminium channel
- 1 x top cladding
- 1 x side cladding
- 2 x rubber gasket seals
- 12 x clamps (4 per metre), for relevant glass thickness
- 1m channel kits available upon request



ADDITIONAL COMPONENTS

END CAP



Description	Code
Without cladding	1805477
One side cladding	1805477S
Both sides cladding	1805477B

UNDERSIDE CLADDING



Length m	Code
3	1805475U

END CAP

For underside cladding



Description	Code
Bottom cladding left side	1805478L
Bottom cladding right side	1805478R

90° CORNER

For use with base fix channel



Code
1805470C

JOINING DOWELS



Code
1805479

Sold in pairs.

CLAMP SPANNER



To Suit Bolt mm	Code
M10	1805476

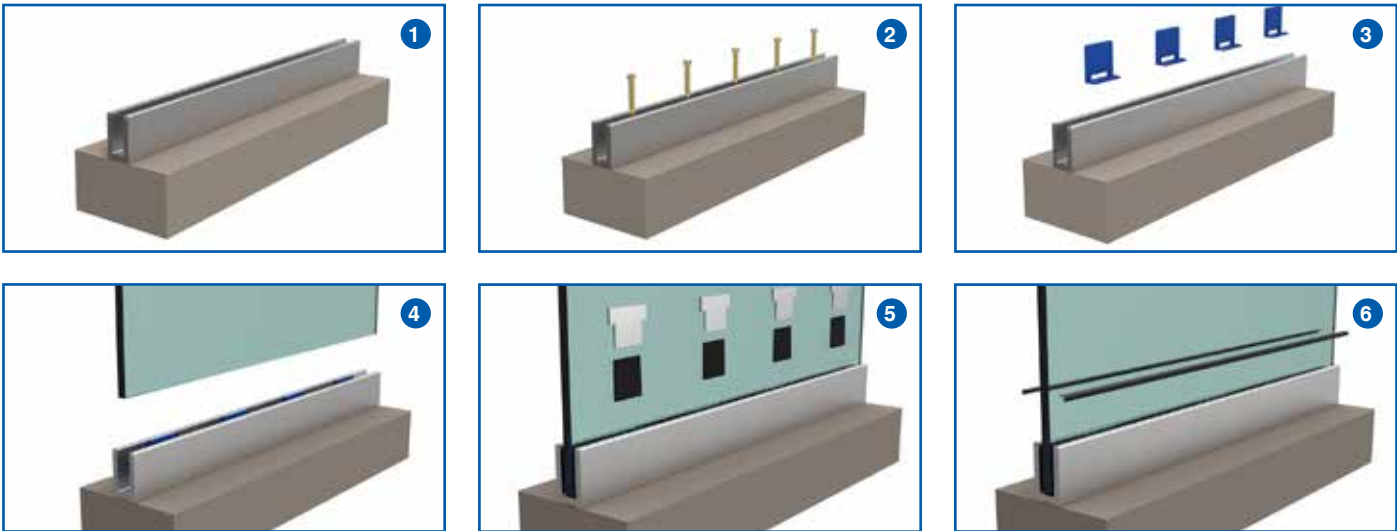


Origin-R glass balustrade system is designed to take loads up to 1.5kN. It uses a simple dry glaze wedge system to lock the glass into place. No need for posts, having a strong glass channel system removes the requirement for having a post and rail glass system giving a frameless appearance where the glass is only held by the base shoe. A Co-Extruded top bead is placed on the system to give it a sleek finish and the profile is silver anodised to give it protection. The system can be curved to a 1 metre radius.

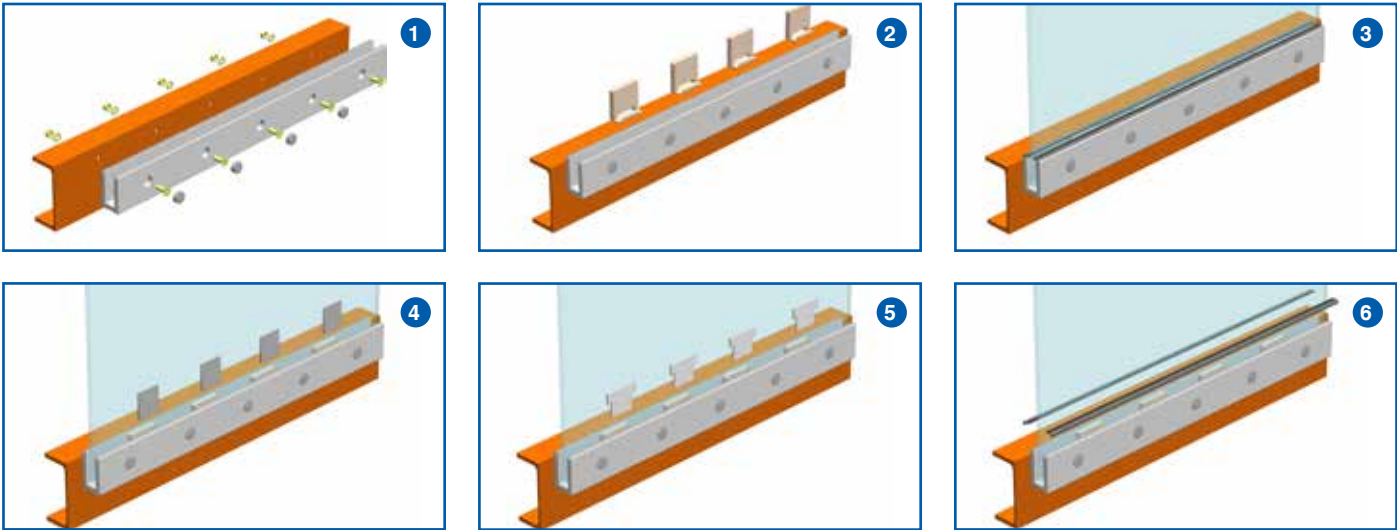
FEATURES:

- Slim yet strong
- Achieves 1.5kN loading to BS standards
- Anodised for Protection
- Base & side fix available
- Suits domestic & light commercial installations
- Can be dry or wet glazed

BASE-FIX INSTALLATION:



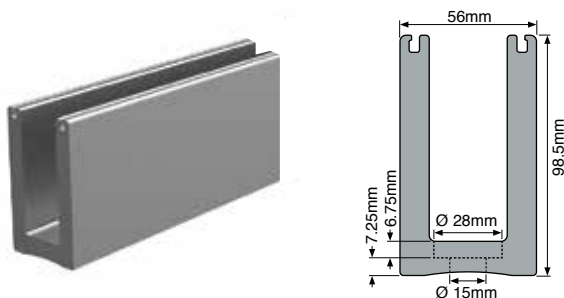
SIDE-FIX INSTALLATION:



PRO-RAILING®

BASE-FIX CHANNEL KIT

Complete with channel, wedge kit & cover clips



Fixing Type	Glass Thickness mm	Length m	Height to Glass with Packer mm	Code
Base	12.00	3	18	1805510B12
	15.00	3	18	1805510B15
	17.52	3	18	1805510B175
	19.00	3	18	1805510B19
	21.52	3	18	1805510B215

Channel fixing holes are Ø 15mm at 200mm centres to suit Ø 12mm bolts.

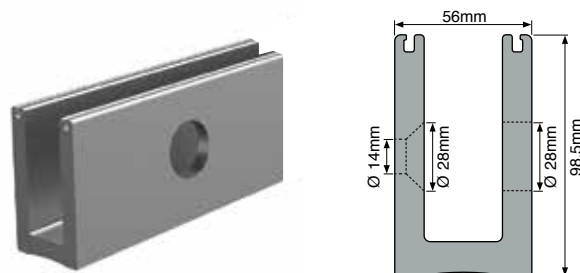
BASE FIX CHANNEL KIT INCLUDES:

- 1 x 3m aluminium channel
- 2 x top clips
- 1 x glass wedge set (9 pieces - 3 per metre)



SIDE-FIX CHANNEL KIT

Complete with channel, wedge kit, cover clips & plastic plugs



Fixing Type	Glass Thickness mm	Length m	Height to Glass with Packer mm	Code
Side	12.00	3	18	1805510S12
	15.00	3	18	1805510S15
	17.52	3	18	1805510S175
	19.00	3	18	1805510S19
	21.52	3	18	1805510S215

Channel fixing holes are Ø 14mm at 200mm centres to suit Ø 12mm bolts.

SIDE FIX CHANNEL KIT INCLUDES:

- 1 x 3m aluminium channel
- 2 x top clips
- 1 x glass wedge set (9 pieces - 3 per metre)
- Plastic plugs



ADDITIONAL COMPONENTS

TOP CLIP



To Suit Glass mm	Code
12.00 - 15.00	180551512
15.00 - 17.52	180551515
19.00 - 21.52	180551519
—	1805515FS*

For 3m lengths. *For fixed side of channel.
Plastic and rubber.

GREY PLUG

For use with side fix channel



Code
1805514GP

Sold in singles.

END CAP



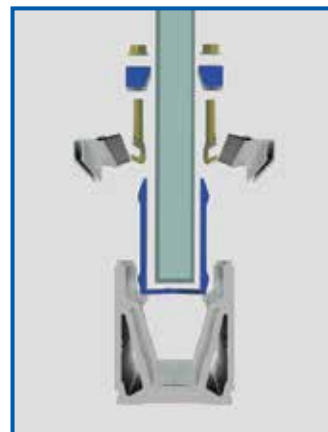
Code
1805517

FOR OUR FULL RANGE OF GLASS PANELS, PLEASE SEE PAGES 617 - 621.

MEGA-GRIP SYSTEM



3kN



This heavy-duty and fully adjustable 3kN frameless balustrade system provides public safety and durability in large commercial installations. Mega-Grip has been produced specifically for public spaces with high volumes of people traffic.

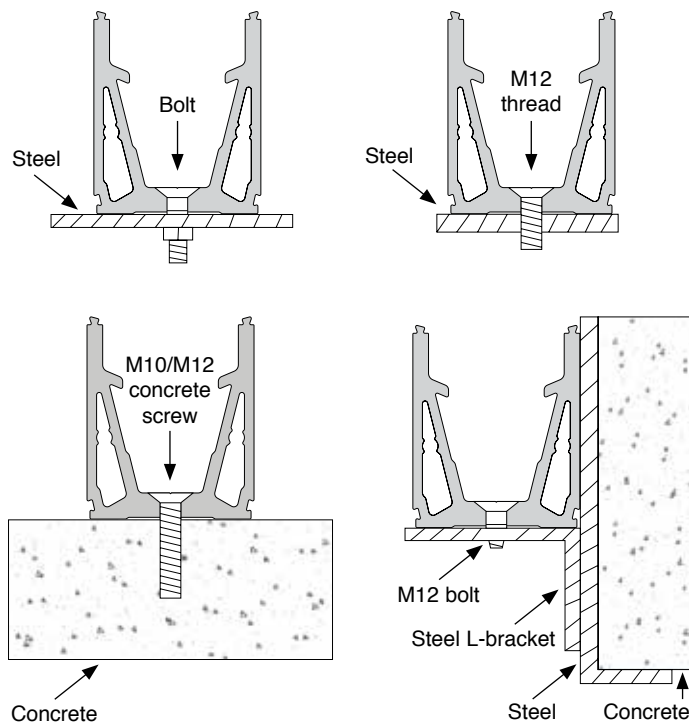
Our latest patented design uses a 13mm hexagonal bolt, making it incredibly easy to adjust and fix the glass with a 1/4" torque wrench and extension arm. This also means it is possible to install the glass from one side.

Mega-Grip works with many glass thicknesses by simply changing the internal clamps.

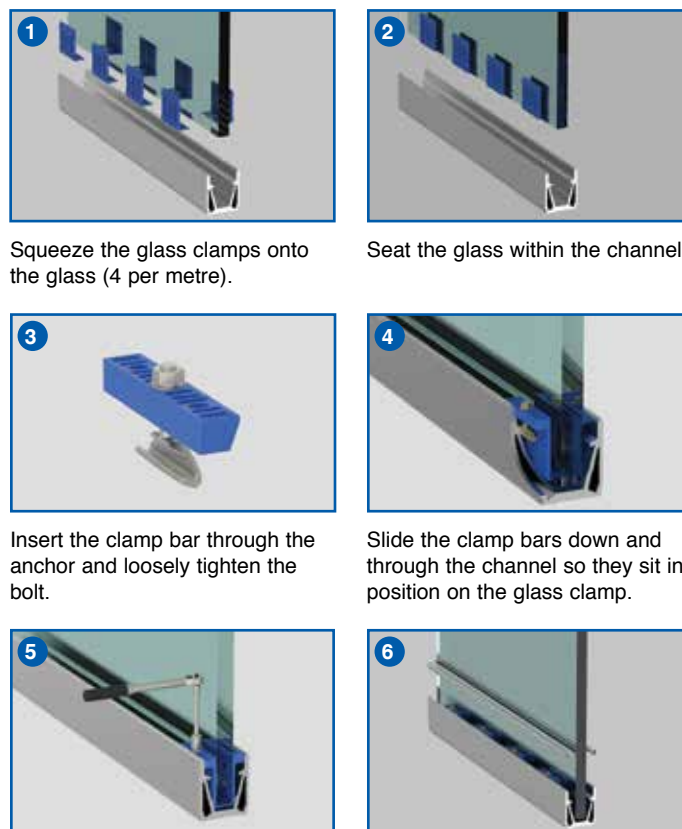
FEATURES:

- **3kN LOADINGS**
25 - 33mm glass types all achieve less than 25mm deflection
- **NO SPECIALIST TOOLS**
Standard 13mm socket to adjust & tighten the clamp
- **DURABLE**
Aluminium anodised in stainless steel effect
- **SIMPLE TO INSTALL**
Clamps simply attach to the glass & can be placed in the channel
- **SAFETY STANDARDS**
Tested to BS 6180

FITTING SCENARIOS



INSTALLATION



Adjust the glass into desired position and tighten the nuts on each side of the system to 15Nm.

Finally, insert the gasket into the top recess of the cladding and firmly press on to the channel.

	304		316		Zinc		Zamac		Mild steel		Galvanised		Aluminium		Duplex
--	-----	--	-----	--	------	--	-------	--	------------	--	------------	--	-----------	--	--------

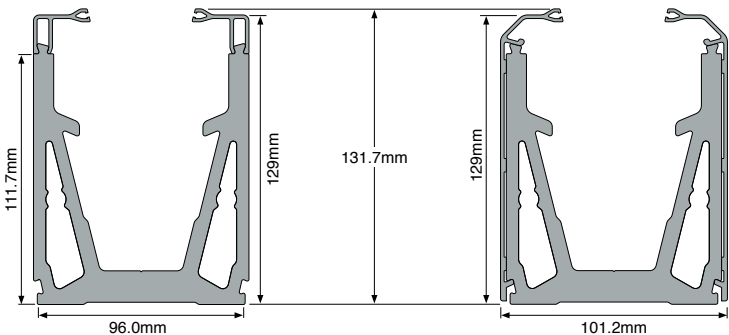
CHANNEL KIT

Complete with channel, clamps & seals



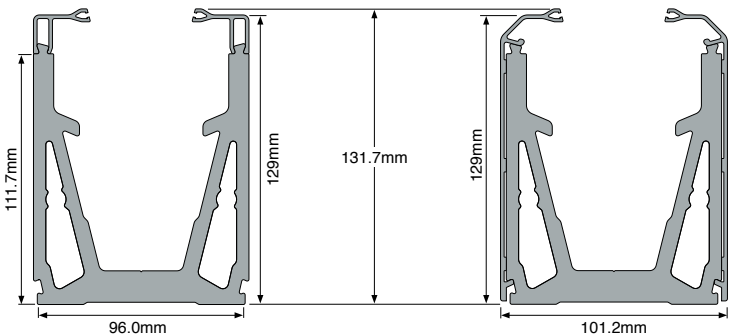
BASE FIX

With top cladding



BASE FIX

With side cladding



Fixing Type	Glass Thickness mm	Length m	Height to Glass with Packer mm	Top Cladding Kit Code	Side Cladding Kit Code
Base	25.0	3	22	1805480BMA25	1805480BM25
	25.5	3	23	1805480BMA255	1805480BM255
	31.5	3	20	1805480BMA315	1805480BM315
	33.0	3	20	1805480BMA33	1805480BM33

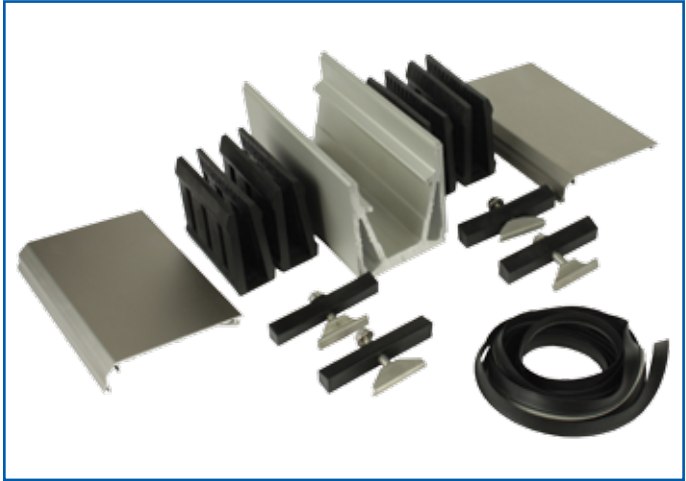
Channel fixing holes are Ø 13mm at 200mm centres to suit Ø 12mm bolts.

TOP CLADDING CHANNEL KIT INCLUDES:

- 1 x 3m anodised aluminium channel
- 2 x top cladding
- 2 x rubber gasket seals
- 12 x clamps (4 per metre), for relevant glass thickness
- 12 x clamp bars

SIDE CLADDING CHANNEL KIT INCLUDES:

- 1 x 3m mill/raw aluminium channel
- 2 x side cladding
- 2 x rubber gasket seals
- 12 x clamps (4 per metre), for relevant glass thickness
- 12 x clamp bars



ADDITIONAL COMPONENTS

END CAP



90° CORNER



JOINING DOWELS



Description	Code
With top cladding	1805487
With side cladding	1805487B

Code
1805480C

Code
1805479

Sold in pairs.

FOR OUR FULL RANGE OF GLASS PANELS, PLEASE SEE PAGES 617 - 621.

ONLEVEL SYSTEMS



TYPE 6020, 6021, 3010 & 3011



OnLevel's unique frameless glass balustrade systems are slimline, low-maintenance, cost effective and elegant. It has a pivot point of the glass on the same level as the rubber seals, therefore the rubber seals are never directly subjected to an increased or decreased load. As a result dirt affects the balustrade much less.

FEATURES:

- Slender, attractive design & low maintenance
- Wider drilling distances means reduced costs
- Increased stability
- Drainage holes
- Available in mill/raw aluminium & anodised aluminium
- Suitable for use with bolt anchors
- Flex-Fit set adjusts the position of each glass panel up to 34mm in relation to the vertical axis
- Connecting pins allow high precision fit
- Suitable for all surface types
- For use with 12 - 21.52mm glass thicknesses

CURRENTLY IN OUR ONLEVEL RANGE WE STOCK:

- **TYPE 6020** - Wider mounting distances, enables the use of the profile also on an anchor bolt without countersunk head. Therefore, mounting the product is not only faster & more cost efficient, but also statics have improved considerably.
- **TYPE 6021** - This is the side fix system of Type 6020.
- **TYPE 3010** - Very well suited for balconies & terraces. It enables an especially small edge distance & therefore gains valuable additional space on the deck itself. Moreover, this system is ideally suited for new installations under screed.
- **TYPE 3011** - Elongated fixing holes allows easy height adjustment. The profile is suited both for interior and exterior applications.

DRAINAGE HOLES

A combination of water and cold can be detrimental to glass balustrades. To avoid problems, OnLevel base and side fix channels include drainage holes at 1m intervals.

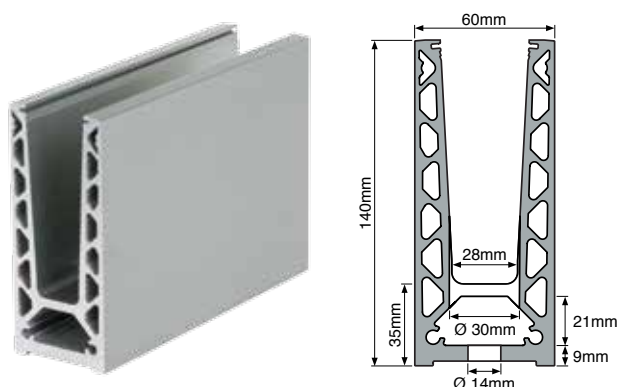


INSTALLATION



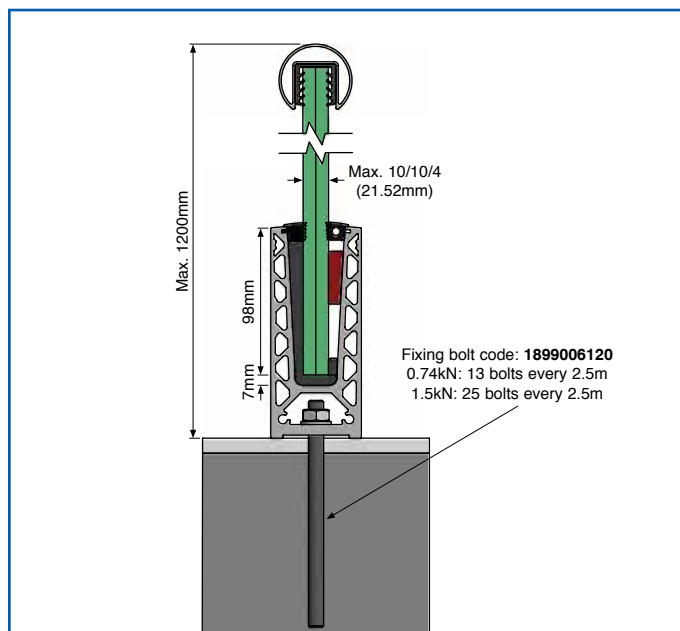
PRO-RAILING®

BASE FIX CHANNEL



Finish	Length m	Code
Mill/Raw	5.0	1805490B5
Anodised	2.5	1805490BA25
Anodised	5.0	1805490BA5

Channel fixing holes are Ø 14mm at 100mm centres to suit Ø 10mm bolts. Height to glass when packer fitted is 42mm.



LEFT/RIGHT END CAP



Finish	Code
Mill/Raw	1805497B
Anodised	1805497BA

INTERNAL/EXTERNAL 90° CORNER



Finish	Code
Mill/Raw	1805490CB
Anodised	1805490CBA

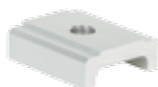
Inside length 140mm each side.
Outside length 200mm each side.

FOR FLEX-FIT SET & TOOLS, SEE PAGE 557.



DRAINAGE SPACER

For use where there is no drainage on a balcony



Finish	Code
Mill/Raw	1805494

Fixing hole Ø 14mm. 17 per pack.



FOR OUR GLASS PANELS, SEE PAGE 617.

FISCHER® ANCHOR



Ø mm	Length mm	Code
10	150	1899006120

JOINING DOWELS



Ø mm	Length mm	Code
6	40	1805499

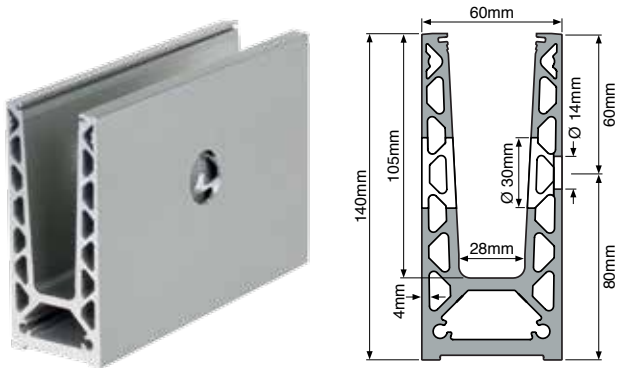
8 per pack.

ONLEVEL SYSTEM



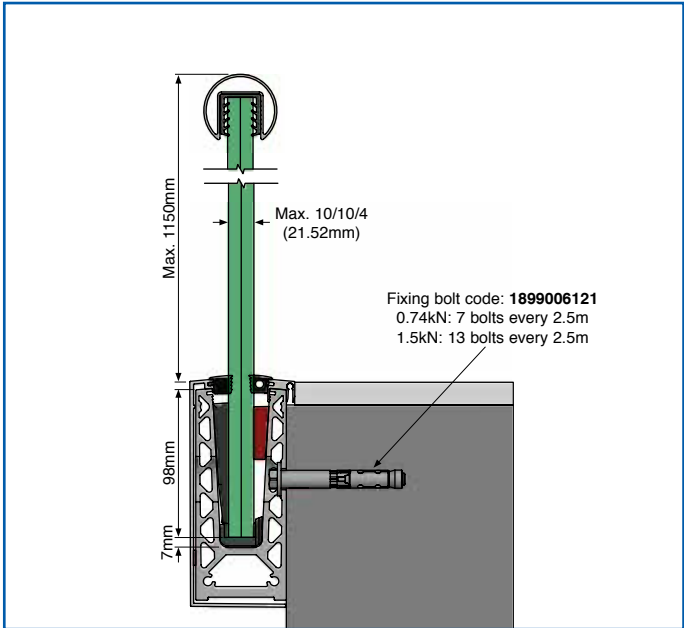
TYPE 6021

SIDE FIX CHANNEL



Finish	Length m	Code
Mill/Raw	5.0	1805490S5
Anodised	2.5	1805490SA25
Anodised	5.0	1805490SA5

Channel fixing holes are Ø 14mm at 200mm centres to suit Ø 12mm bolts. Height to glass when packer fitted is 42mm.



END CAP



Finish	Side	Code
Mill/Raw	Left	1805497LS
Anodised	Left	1805497LSA
Mill/Raw	Right	1805497RS
Anodised	Right	1805497RSA

END CAP

For use with side cladding



Finish	Side	Code
Mill/Raw	Left	1805497LSC
Anodised	Left	1805497LSAC
Mill/Raw	Right	1805497RSC
Anodised	Right	1805497RSAC

INTERNAL 90° CORNER



Finish	Code
Mill/Raw	1805490ICS
Anodised	1805490ICSA

Inside length 140mm each side.
Outside length 200mm each side.

EXTERNAL 90° CORNER



Finish	Code
Mill/Raw	1805490ECS
Anodised	1805490ECSA

Inside length 140mm each side.
Outside length 200mm each side.

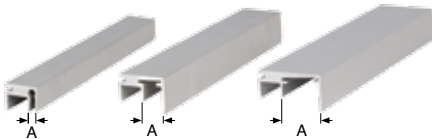
SIDE CLADDING

With mounting strip



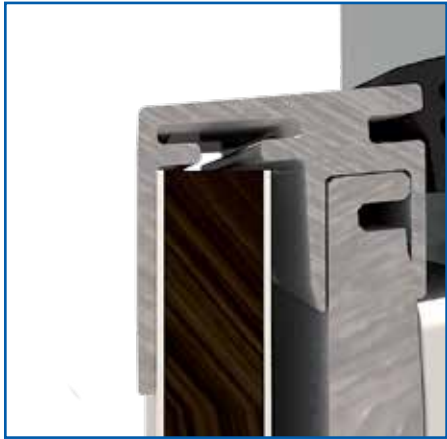
Finish	Length m	Code
Anodised	2.5	1805495SA25
Anodised	5.0	1805495SA5

TOP CLADDING



Finish	(A) mm	Code
Anodised	3	1805495TA503
Anodised	10	1805495TA510
Anodised	20	1805495TA520

5m length.



**SIDE & TOP CLADDING
ALSO AVAILABLE IN
MILL/RAW FINISH.**

**FOR FLEX-FIT SET &
TOOLS, SEE PAGE 557.**

**FOR OUR GLASS PANELS,
SEE PAGE 617.**

JOINING DOWELS



Ø mm	Length mm	Code
6	40	1805499

8 per pack.

PLUG



Ø mm	Colour	Code
30	Grey	1805494P

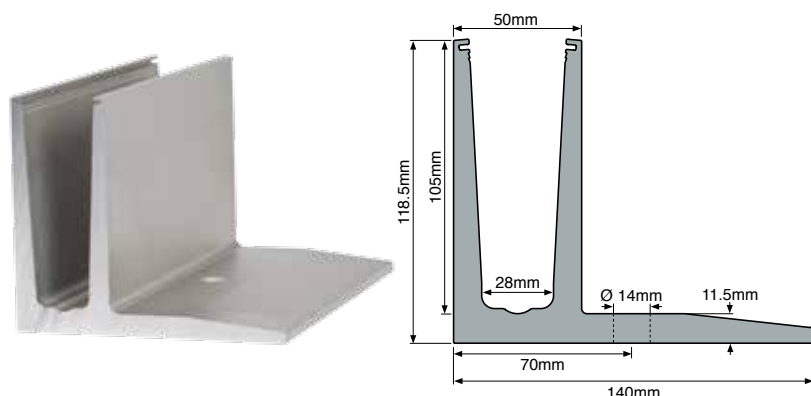
10 per pack. 17 required per 2.5m.

ANCHOR



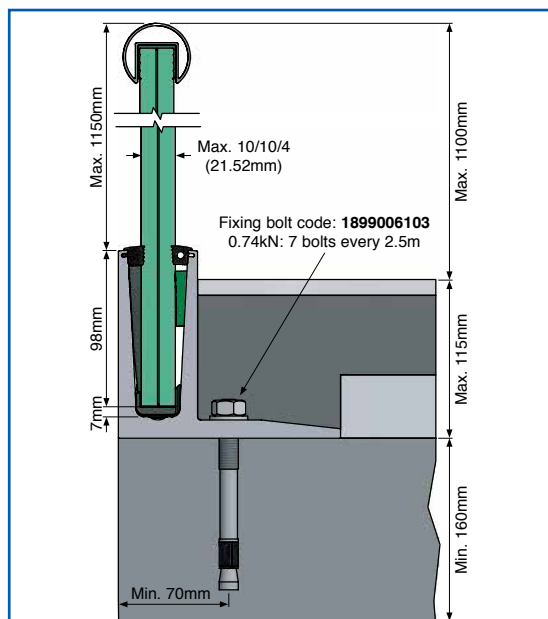
Ø mm	Length mm	Code
12	120	1899006121

BASE FIX CHANNEL



Finish	Length m	Code
Mill/Raw	5.0	1805500B5
Anodised	2.5	1805500BA25
Anodised	5.0	1805500BA5

Channel fixing holes are Ø 14mm at 360mm centres to suit Ø 12mm bolts.
Height to glass when packer fitted is 20.5mm.



END CAP



END CAP

For use with cladding



INTERNAL 90° CORNER



EXTERNAL 90° CORNER



Finish	Side	Code
Mill/Raw	Left	1805507LS
Anodised	Left	1805507LSA
Mill/Raw	Right	1805507RS
Anodised	Right	1805507RSA

Finish	Side	Code
Mill/Raw	Left	1805507LSC
Anodised	Left	1805507LSAC
Mill/Raw	Right	1805507RSC
Anodised	Right	1805507RSAC

Finish	Code
Mill/Raw	1805500ICB
Anodised	1805500ICBA

Inside length 60mm each side.
Outside length 200mm each side.

Finish	Code
Mill/Raw	1805500ECB
Anodised	1805500ECBA

Inside length 60mm each side.
Outside length 200mm each side.

SIDE CLADDING



SIDE CLADDING ALSO AVAILABLE IN MILL/RAW FINISH ON REQUEST.

FOR OUR GLASS PANELS, SEE PAGE 617.

FOR FLEX-FIT SET & TOOLS, SEE PAGE 557.

FISCHER® ANCHOR



Finish	Length m	Code
Anodised	5.0	1805500SA5

Not available in 2.5m length.

Ø mm	Length mm	Code
M12	105	1899006103

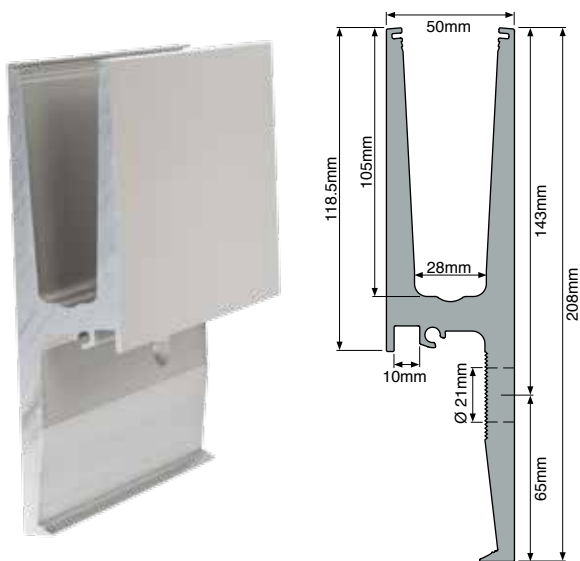


ONLEVEL SYSTEM



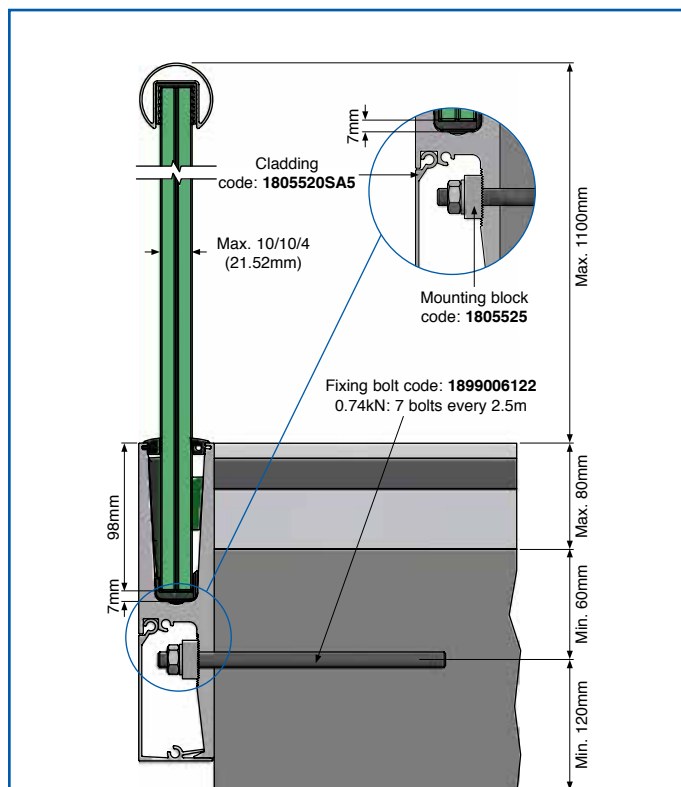
TYPE 3011

SIDE FIX CHANNEL



Finish	Length m	Code
Mill/Raw	5.0	1805520B5
Anodised	2.5	1805520BA25
Anodised	5.0	1805520BA5

Channel fixing holes are Ø 21mm at 370mm centres to suit Ø 10mm bolts. Height to glass when packer fitted is 110mm.



END CAP



END CAP

For use with cladding



Finish	Side	Code
Mill/Raw	Left	1805527LS
Anodised	Left	1805527LSA
Mill/Raw	Right	1805527RS
Anodised	Right	1805527RSA

Finish	Side	Code
Mill/Raw	Left	1805527LSC
Anodised	Left	1805527LSAC
Mill/Raw	Right	1805527RSC
Anodised	Right	1805527RSAC

INTERNAL 90° CORNER



EXTERNAL 90° CORNER



Finish	Code
Mill/Raw	1805520ECB
Anodised	1805520ECBA

Inside length 150mm each side.
Outside length 200mm each side.

Finish	Code
Mill/Raw	1805520iCB
Anodised	1805520iCBA

Inside length 150mm each side.
Outside length 200mm each side.

SIDE CLADDING



SPACER PLATE

For drainage when used outdoors



MOUNTING BLOCK

With teeth for force-locked connection



Finish	Length m	Code
Anodised	5.0	1805520SA5

Not available in 2.5m length.

Finish	Code
Anodised	1805524

To create space between the base shoe and the facade of the balcony.

Finish	Code
Anodised	1805525

Requires 7 blocks per 2.5m length.
Fixing hole Ø 11mm. 8 per pack.

FISCHER® ANCHOR



JOINING DOWELS



Ø mm	Length mm	Code
M10	190	1899006122

Ø mm	Length mm	Code
6	40	1805499

8 per pack.

FOR FLEX-FIT SET & TOOLS, SEE PAGE 557.



FLEX-FIT SET

All of the OnLevel systems are easily installed using the Flex-Fit set. It can adjust any glass panel individually while positioning it up to 34mm in relation to the vertical axis. It can be handled exclusively from the balcony side, this applies to the entire installation, making it much safer and saving unnecessary costs for scaffolding or lifting platforms. With one single hand movement Flex-Fit set can adjust the glass with precision.

NEUTRAL POSITION

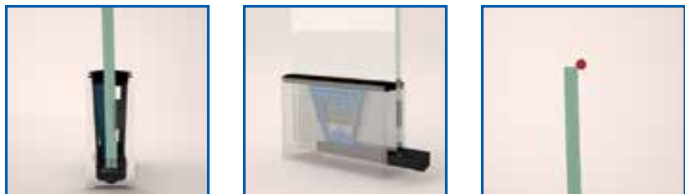
The slide is in neutral position and so is the glass.



FLEX-FIT SET



ADJUSTMENT 1 - Tilt the glass towards the balcony side, to do so move the slide to the right.



ADJUSTMENT 2 - Tilt the glass towards the void side, to do so move the slide to the left.



FLEX-FIT TOOL



COMBI TOOL



Glass Thickness mm	For 2.5m Length Code	For 5.0m Length Code
12.00	18054911225	1805491125
12.76	1805491127625	180549112765
13.52	1805491135225	180549113525
15.00	18054911525	1805491155
16.76	1805491167625	180549116765
17.52	1805491175225	180549117525
19.00	18054911925	1805491195
20.76	1805491207625	180549120765
21.52	1805491215225	180549121525

Code
180599FFT

Code
180599CT

FOR OUR RANGE OF GLASS
PANELS, SEE PAGE 617.



liveconfigurator™

REAL TIME DESIGN

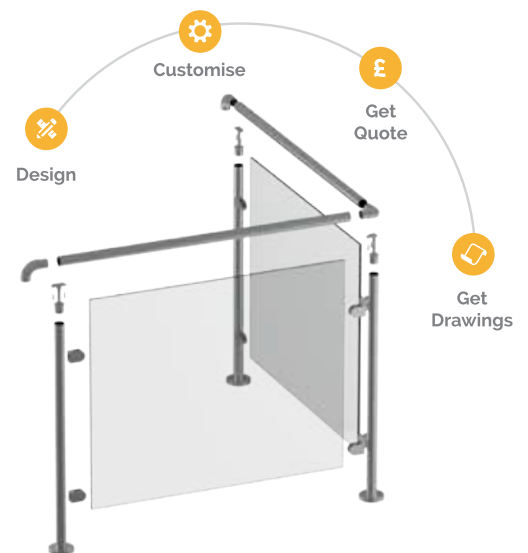


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- Provide accurate, detailed layout drawings
- A choice of styles, layouts and components
- Makes installation easier and faster

- Systems to suit 8 - 21.52mm glass
- Anodised or stainless steel Grade 304 & 316
- Reduced visual impact

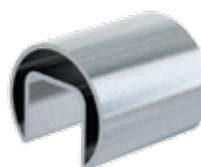
- No welding required
- Satin polish or mirror finish
- Choice of 8 profiles



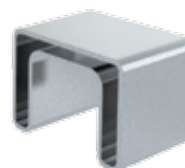
SQUARE SLIM
See page 560



SQUARE MINI
See page 562



ROUND MINI
See page 563



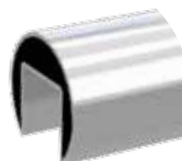
RECTANGULAR
See page 564



OVAL
See page 565



ROUND
See page 566



MIRROR FINISH ROUND
See page 599



ALUMINIUM SQUARE
See page 561

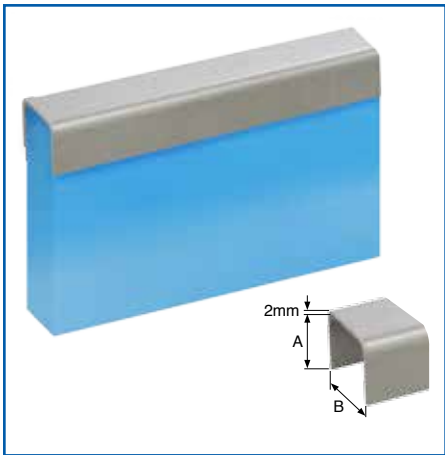
SQUARE SLIM TOP RAIL



ANODISED ALUMINIUM



To Suit Glass mm	Length m	(A) mm	(B) mm	Code
12.0	2.5	13	12.5	150501
15.0	2.5	13	15.5	150502
16.76 - 17.52	2.5	18	18.0	150503
19.0	2.5	18	19.5	150504
21.52	2.5	18	22.0	150505



STAINLESS STEEL



To Suit Glass mm	Length m	(A) mm	(B) mm	Code
12.0	2.5	13	12.5	150601
15.0	2.5	13	15.5	150602
16.76 - 17.52	2.5	18	18.0	150603
19.0	2.5	18	19.5	150604
21.52	2.5	18	22.0	150605

FREE* DELIVERY on orders over £150!



PRO-RAILING®



Wrought Iron Components



Perforated Metal



Expanded Metal



Welded Wire Mesh



Woven Wire Mesh



Gate Hardware



Gate Automation



Flooring & Stair Treads



Cantilever Gate Components



Steel Section



Sliding Door Gear



Handrailing & Components



Fixings & Tools



Tube Clamps



Crash Barrier



Gates & Railings



Fencings & Security



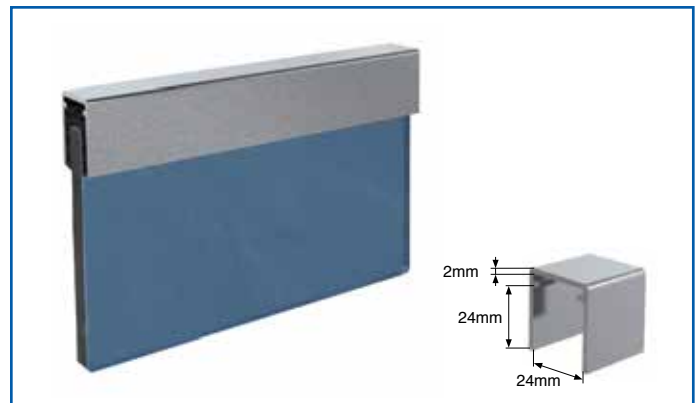
Working at Height

*Within our standard area and elsewhere at cost.



FEATURES

- Designed for 8 - 21.5mm glass with rubber gasket
- No welding required
- Reduced visual impact of top rail
- Connectors simply slide into the top rail for a neat joint
- Flush fit fittings
- All products are anodised aluminium



TOP RAIL



Length m	Code
4	150506

Length 4m.

90° TOP RAIL



Code
150506411

Inside length 342mm each side. Outside length 370mm each side.

INTERNAL CONNECTOR



Length mm	Code
100	150506412

90° CORNER INTERNAL CONNECTOR



Code
15050641290

Inside length 76.5mm each side. Outside length 100mm each side.

END CAP



Code
150506413

GASKET



To Suit Glass mm	Length m	Code
8 - 11	1	189903811C
11.5 - 13.5	1	189903115135C
15	1	18990315C
16 - 17.5	1	18990316175C
19	1	18990319C
20 - 21.5	1	18990320215C

Rubber.



**FOR OUR RANGE OF
GLASS PANELS,
SEE PAGE 617.**

SQUARE MINI TOP RAIL SYSTEM

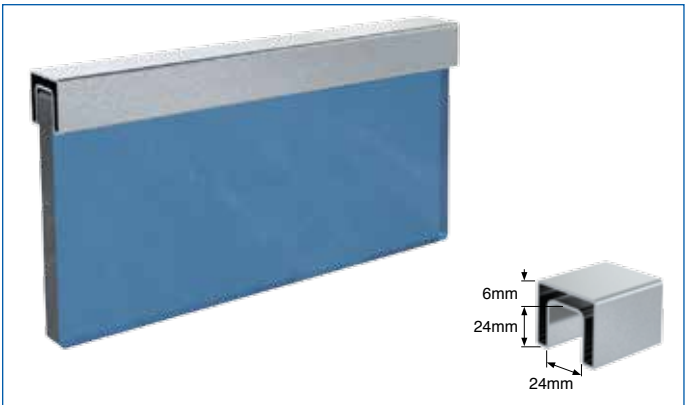


25 x 21mm PROFILE



FEATURES:

- Designed for 10 - 12mm glass with rubber gasket
- No welding required
- Reduced visual impact of top rail
- Straight joiner slides into the top rail for a neat joint
- Flush fit fittings
- All products are satin polish finish stainless steel Grade 316



SPLIT TUBE



Length m	Code
3.0	18067053S25
5.8	1806705S25

GASKET



To Suit Glass mm	Length m	Code
10	1	1899031010

Rubber.

GASKET



To Suit Glass mm	Length m	Code
12	1	1899031012

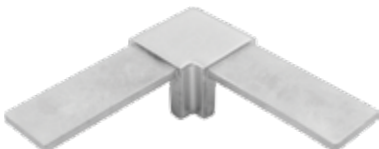
Rubber.

ADJUSTABLE CORNER



Code
1806418S25

90° JOINER



Code
1806411S25

ADJUSTABLE JOINER



Code
1806416S25

END CAP



Code
1806413S25

WALL BRACKET



Code
1806415S25

JOINER



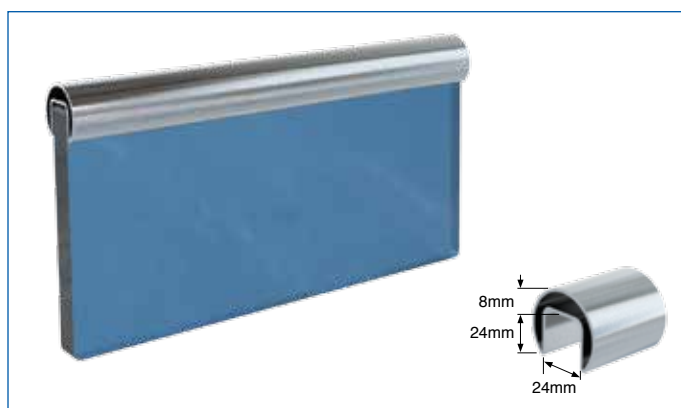
Code
1806412S25

PRO-RAILING®



FEATURES:

- Designed for 10 - 12mm glass with rubber gasket
- No welding required
- Reduced visual impact of top rail
- Straight joiner slides into the top rail for a neat joint
- Flush fit fittings
- All products are satin polish finish stainless steel Grade 316



SPLIT TUBE



Length m	Code
3.0	18067053A
5.8	1806705A

GASKET



To Suit Glass mm	Length m	Code
10	1	1899031010

Rubber.

GASKET



To Suit Glass mm	Length m	Code
12	1	1899031012

Rubber.

90° JOINER



Code
1806411A

ADJUSTABLE CORNER



Code
1806418A

ADJUSTABLE JOINER



Code
1806416A

END CAP



Code
1806413A

WALL BRACKET



Code
1806415A

JOINER



Code
1806412A

RECTANGULAR TOP RAIL SYSTEM

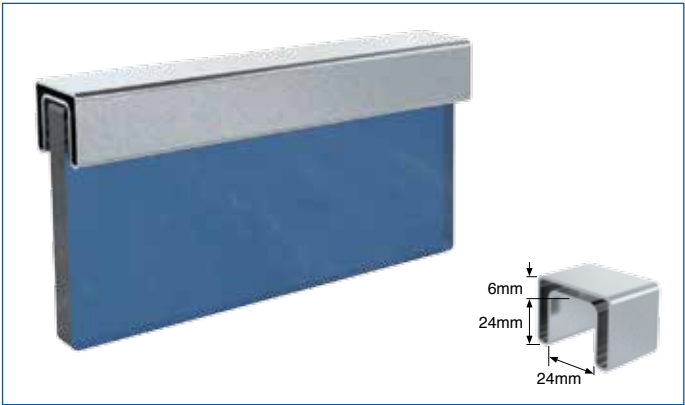


40 x 30mm PROFILE



FEATURES:

- Designed for 8 - 21.5mm glass with rubber gasket
- No welding required
- Joiner simply slides into the top rail for a neat joint
- Flush fit fittings
- All products are satin polish finish Duplex 2205 stainless steel



SPLIT TUBE



Length m	Code
3.0	182270534030
5.8	18227054030

GASKET



To Suit Glass mm	Length m	Code
8 - 11	1	189903811C
11.5 - 13.5	1	189903115135C
15	1	18990315C

Rubber.

To Suit Glass mm	Length m	Code
16 - 17.5	1	18990316175C
19	1	18990319C
20 - 21.5	1	18990320215C

Rubber.

90° JOINER



Code
18224114030

ADJUSTABLE CORNER
90° - 180° left or right



Code
18224184030

ADJUSTABLE JOINER
45° up & 90° down



Code
18224164030

END CAP



Code
18224134030

WALL BRACKET



Code
18224154030

JOINER

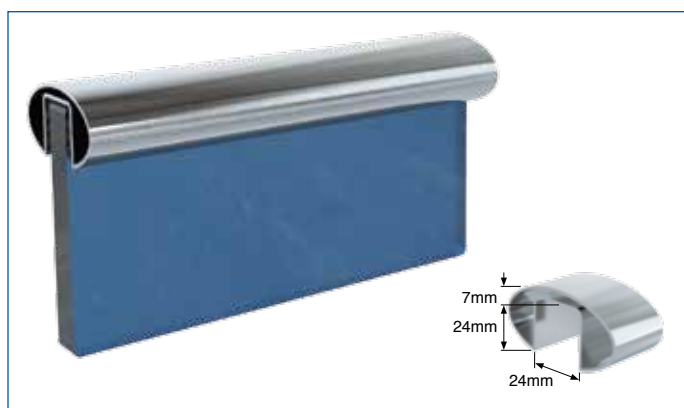


Code
18224124030



FEATURES:

- Designed for 8 - 21.5mm glass with rubber gasket
- No welding required
- Joiner simply slides into the top rail for a neat joint
- Flush fit fittings
- All products are Duplex 2205 with a satin polish finish



SPLIT TUBE



Length m	Code
3.0	182270536030
5.8	18227056030

GASKET



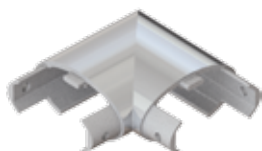
To Suit Glass mm	Length m	Code
8 - 11	1	189903811C
11.5 - 13.5	1	189903115135C
15	1	18990315C

Rubber.

To Suit Glass mm	Length m	Code
16 - 17.5	1	18990316175C
19	1	18990319C
20 - 21.5	1	18990320215C

Rubber.

90° JOINER



Code
18224116030

ADJUSTABLE CORNER

45° left or right



Code
18224186030

ADJUSTABLE JOINER

45° up or down



Code
18224166030

END CAP



Code
18224136030

WALL BRACKET



Code
18224156030

JOINER



Code
18224126030

ROUND TOP RAIL SYSTEM



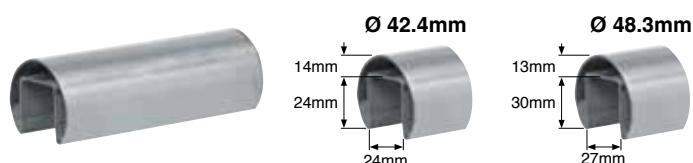
Ø 42.4 & 48.3mm PROFILES



Round top rail system offers a stylish solution to the top of any glass balustrade and also provide a visual break. We can shape to match if you're planning radiused glass in your design.

SPLIT TUBE

1.5mm wall thickness



3m LENGTH

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

6m LENGTH

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

GASKET



Ø 42.4mm

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

Ø 48.3mm

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

90° HORIZONTAL CORNER



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

25 - 55° DOWNWARDS ADJUSTABLE CONNECTOR



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

25 - 55° UPWARDS ADJUSTABLE CONNECTOR



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

90° VERTICAL CORNER



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

END CAP



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

WALL/FLOOR FLANGE



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

TUBE ADAPTOR



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

IN-LINE CONNECTOR



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

FOR OUR MIRROR FINISH ROUND TOP RAIL SYSTEM SEE PAGE 599.



HANDRAILING MADE EASY!

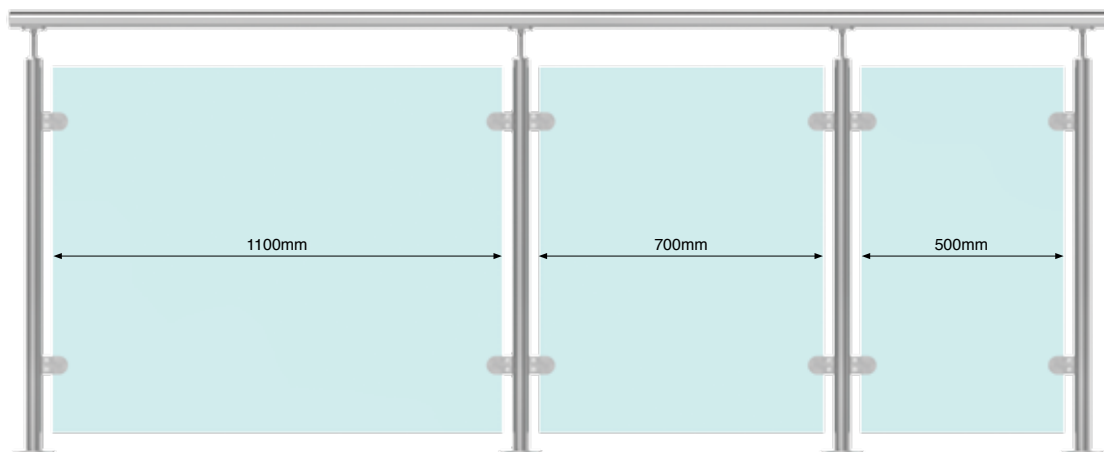
Save a huge amount of time & money with our extensive range of pre-assembled posts, supplied from stock. They are all tested to BS 6180. No drilling of tubes, no bolting on of glass clamps & no welding of base plates required. We've done the work for you!

STRAIGHT OUT OF THE BOX AND READY TO INSTALL:

- Ø 42.4 & 48.3mm round posts
- 40 x 40mm square posts
- Strand wire rope posts
- Crossbar holder posts
- Satin & mirror polish
- Stainless steel Grade 304 & 316

STANDARD GLASS PANELS

We stock a large range of different widths of 10mm toughened glass panels to make your installations even quicker, easier and more cost effective. See pages 617 - 621 for the full range.



PRO-RAILING®

FOR OUR COMPETITIVE SQUARE METRE GLASS PANEL PRICES, VISIT www.fhbrundle.co.uk.

PRE-ASSEMBLED POSTS



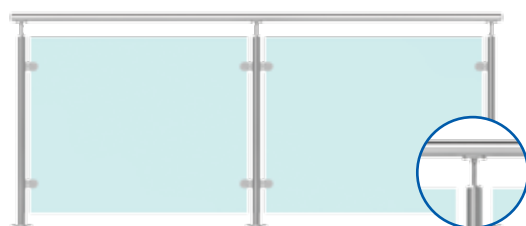
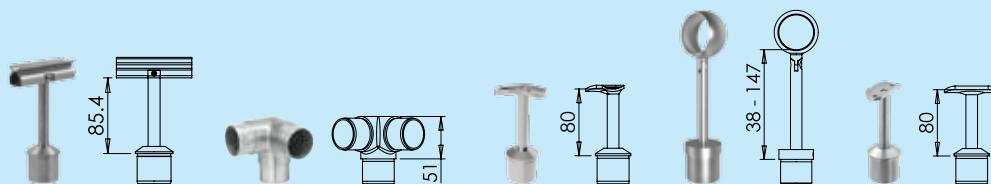
CHOOSE YOUR OWN POST TOP

Our pre-assembled glass clamp posts come with open tops and are suitable for a wide range of applications. With a change of a top fitting any of the designs below are easily achievable. The posts are designed for a quick and easy installation with maximum flexibility to meet your design requirements.

FOR TECHNICAL DRAWINGS VISIT THE PRE-ASSEMBLED SECTION OF OUR WEBSITE.

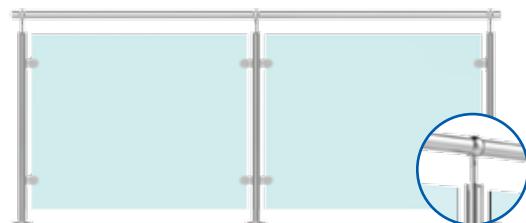


**6 GREAT
DESIGNS
FROM ONE
POST!**



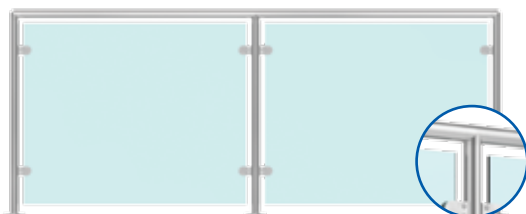
RAILING SADDLE

- Gives overall height of 1100mm with handrail tube
- Available for Ø 42.4 and 48.3mm
- Railing saddles can be found on page 585
- Adjustable spigot



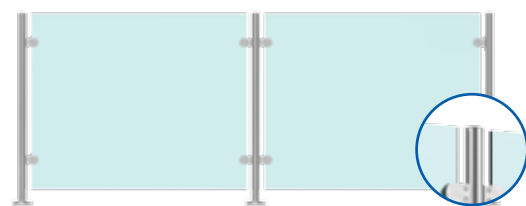
QUICK & EASY INSTALLATION

- Ideal for DIY installations, no drilling of tube required
- Great for exhibition stands & temporary structures
- Gives overall height of 1100mm with handrail tube
- Adjustable handrail adaptor adjusts in height & angle
- New handrail bracket with adjustable elbow added to the range, see page 585.



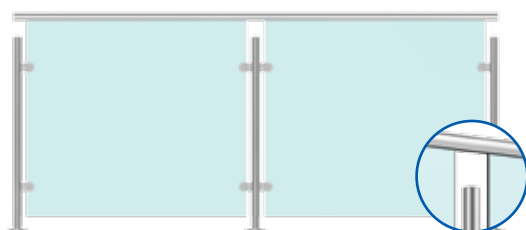
TUBE FITTINGS

- Gives an overall handrail height of 1151mm if used with our pre-assembled posts on page 567
- Tube fittings can be found on page 586



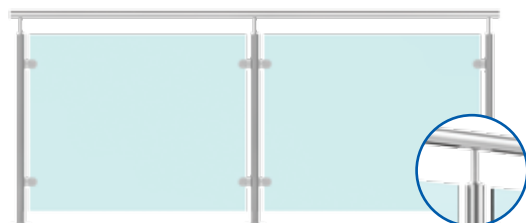
END CAPS - NO TOP RAIL

- Not suitable for applications where the drop is more than 600mm unless a handrail is added. See page 570
- Using posts on page 569 this will give a height of 1100mm
- Ideal for areas that need demarcation.
- Offers the maximum unobstructed view from a post system
- See Marano® square & round as alternatives (pages 520 & 523)



POST CAPS RAISED GLASS & SPLIT TUBE

- Gives overall height of 1100mm
- For our range of split tube top rails that work in this design, see page 559
- Choice of caps available, see pages 566 & 599



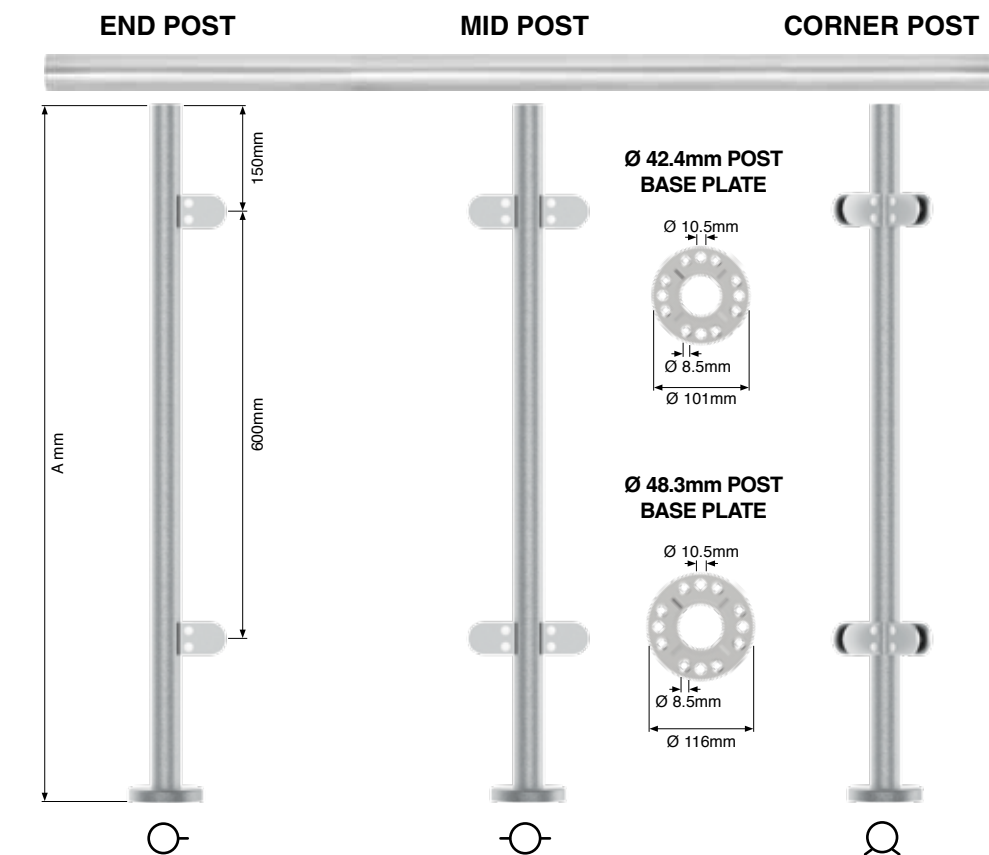
ILLUMIRAIL®

- For use with Illumirail® LED Bar system, see page 611
- Gives overall height of 1100mm with handrail tube
- Works with split tube, rectangular & oval top rails, see pages 564 & 565
- Only available for Ø 42.4mm
- Saddle can be found on page 612

PRO-RAILING®



CHOOSE YOUR POST & TOP



Ø mm	A mm	Code
42.4	978	1804791C
48.3	972	1804791D
42.4	978	1806791C
48.3	972	1806791D

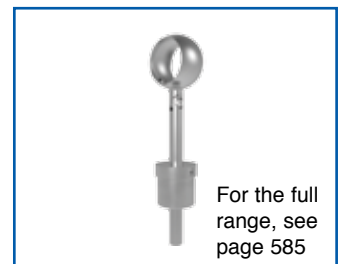
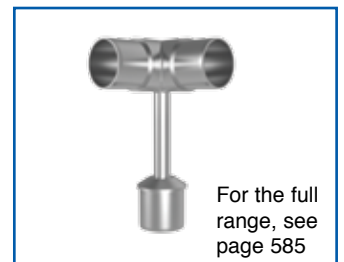
Dim A is post only with no top.
Top fitting not included.

Ø mm	A mm	Code
42.4	978	1804792C
48.3	972	1804792D
42.4	978	1806792C
48.3	972	1806792D

Dim A is post only with no top.
Top fitting not included.

Ø mm	A mm	Code
42.4	978	1804793C
48.3	972	1804793D
42.4	978	1806793C
48.3	972	1806793D

Dim A is post only with no top.
Top fitting not included.



ALL POSTS HAVE:



Welded base fitting complete with rubber 'O' ring and cover.



Glass clamp for 10mm glass
(8 and 12mm rubbers available).



Variable fixing bolt.



FOR MIRROR FINISH POSTS SEE PAGE 596.

PRE-ASSEMBLED POSTS

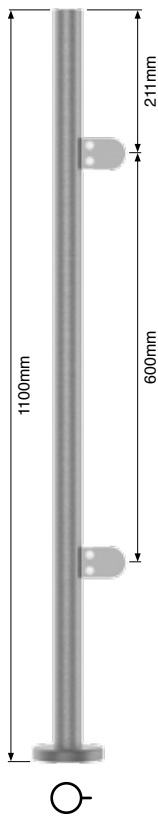


BOLT-DOWN



10mm GLASS INFILL PANELS, WITHOUT A HANDRAIL, WILL NOT PASS BUILDING REGULATIONS. THIS SYSTEM IS ONLY SUITABLE WHERE A DROP OF LESS THAT 600mm IS PRESENT.

END POST



Ø mm	Code
42.4	1806761C

Top fitting not included.

MID POST



Ø mm	Code
42.4	1806762C

Top fitting not included.

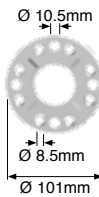
CORNER POST



Ø mm	Code
42.4	1806763C

Top fitting not included.

Ø 42.4mm POST
BASE PLATE



Ø 48.3mm POST
BASE PLATE



RANGE OF END CAPS
See page 581



Raised Top



7 Groove Flat Top



Domed Top

To keep stainless steel handrail & fittings in top condition long after installation, use our tea staining kit, see page 738.



ALLEN KEY



Code
189900606

Compatible with our tube fittings. See page 586 for the full range.



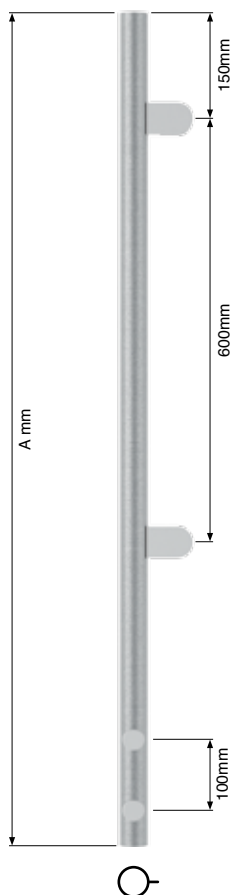
FOR MIRROR
FINISH POSTS SEE
PAGE 596.



FOR OUR RANGE OF
GLASS PANELS ,
SEE PAGES 617 - 621.

TESTED TO
BS 6180

END POST



MID POST



When using side-fix posts glass should be drilled & security pins code: **189900401** for 8 - 10mm thick glass or code: **189900402** for 12mm thick glass should be used.



FOR MIRROR FINISH
POSTS SEE PAGE 596.

To keep stainless steel handrail & fittings in top condition long after installation, use our tea staining kit, see page 738.



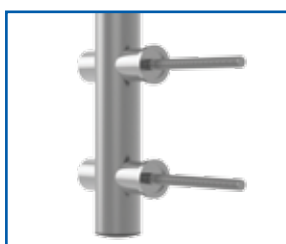
Ø mm	A mm	Code
42.4	1178	1806794C
48.3	1172	1806794D

Dim A is post only with no top.
Top fitting not included.

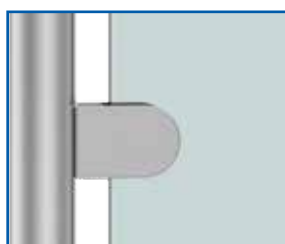
Ø mm	A mm	Code
42.4	1178	1806795C
48.3	1172	1806795D

Dim A is post only with no top.
Top fitting not included.

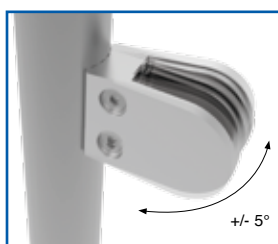
ALL POSTS HAVE:



Two M10 x 200mm threads, fascia mount. Stainless steel cap in the base of the post.



Glass clamp for 10mm glass (8 and 12mm rubbers available).



Variable fixing bolt.

ALLEN KEY



Code
189900606

MAKE YOUR OWN POSTS



A pre-welded base on a plain post saves you time and money on welding, when a bespoke post is required. Simply cut it to the desired height and fit extra components where needed. The plain upright is supplied in an easy to handle length and is ideal for offset glass clamps on staircases.

PRE-ASSEMBLED PLAIN POST

Diagram of a plain upright post with height dimension A mm.

Ø 42.4mm POST BASE PLATE

Ø 10.5mm
Ø 8.5mm
Ø 101mm

Ø 48.3mm POST BASE PLATE

Ø 10.5mm
Ø 8.5mm
Ø 116mm

Ø mm	A mm	Code
42.4	1000	1804790C
48.3	1000	1804790D
42.4	1000	1806790C
48.3	1000	1806790D

Dim A is post only with no top. Top fitting not included.

PLAIN UPRIGHT POST

No holes

CAN BE USED WITH

Bolt-on
page 590

Sleeve fit
page 573

Weld-on
page 593

**THESE POSTS CAN BE
DRILLED, BOLTED, CUT TO
SIZE, WELDED AND MORE!**

Ø mm	Height mm	Code
42.4	1000	1804708CB
48.3	1000	1804708DB
42.4	1000	1806708CB
48.3	1000	1806708DB
42.4	1200	1804708CL
48.3	1200	1804708DL
42.4	1200	1806708CL
48.3	1200	1806708DL

SLEEVE FIT BRACKETS

**STOP PRESS - THIS SYSTEM CAN BE BUILT WITHOUT HAVING TO
DRILL ANY STAINLESS STEEL TUBE.**

JUST TIGHTEN THE GRUB SCREW TO FIX TO POST

**CREATE A WIDE RANGE OF
POSTS WITH NO DRILLING!**

- 1 Select your post height.
- 2 Choose your post top
(End caps page 581)
(Railing saddles page 585)
- 3 Choose your glass clamp
(442F page 591)
(401F page 590)
- 4 Choose your base
(Bolt-down page 587)
(Side-fix page 588)

PRO-RAILING®

Mid bracket code: **1806521C.**

End bracket code: **1806522C.**

Adjustable corner bracket code: **1806523C.**

Adjustable handrail support bracket code: **1806314CC.**



NO DRILLING OF POST OR HANDRAIL REQUIRED!

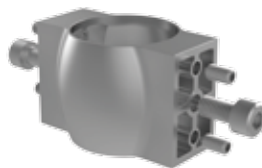
END BRACKET



Ø mm	Code
42.4	1806521C
48.3	1806521D

Supplied with M8 bolt for fixing glass clamps.

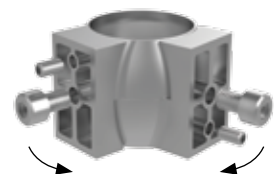
MID BRACKET



Ø mm	Code
42.4	1806522C
48.3	1806522D

Supplied with M8 bolt for fixing glass clamps.

**75 - 185° ADJUSTABLE
CORNER BRACKET**



Ø mm	Code
42.4	1806523C
48.3	1806523D

Supplied with M8 bolt for fixing glass clamps.

**JUST SLIDE EVERYTHING
INTO PLACE & TIGHTEN!**

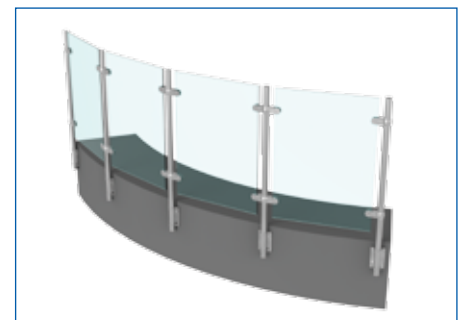
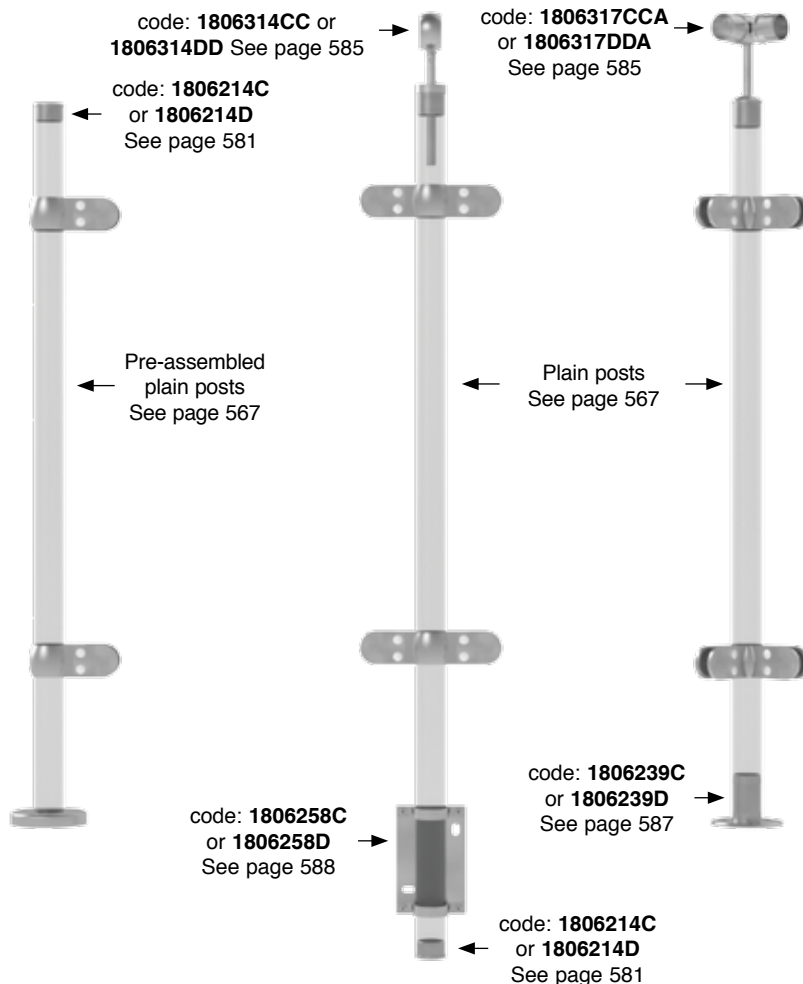


Image shows sleeve fit brackets being used on a curve.

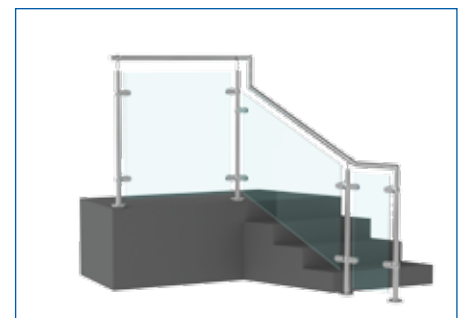


Image shows sleeve fit brackets being used on a staircase.

SQUARE PRE-ASSEMBLED POSTS

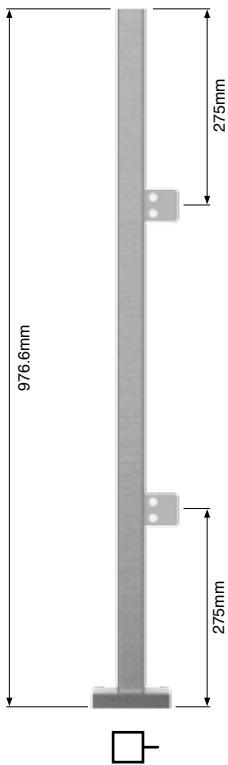


BOLT-DOWN

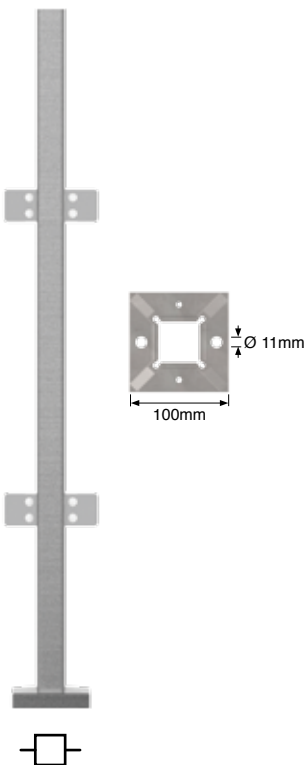


TESTED TO
BS 6180

END POST



MID POST



CORNER POST



For compatible handrail supports see pages 575.



SQUARE POSTS CAN BE USED WITH:



Round tube



Square tube



Rectangular tube

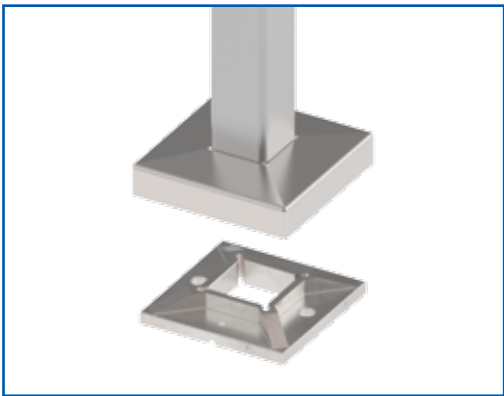
□ mm	Code
40	1806731S40

□ mm	Code
40	1806732S40

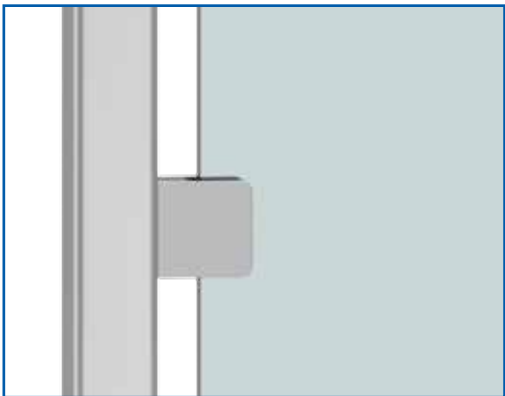
□ mm	Code
40	1806733S40

WE STOCK GLASS FOR 1200mm POST CENTRES, SEE PAGE 617.

ALL POSTS HAVE:



Welded base fitting complete with cover.



Glass clamps for 10mm glass (8 and 12mm rubbers available).

ALLEN KEY



Code
189900606

**ADJUSTABLE SPIGOT
SADDLE**
Tube/tube



□ mm	To Suit Ø mm	Code
40	42.4	1806312S40C

**90° FIXED SPIGOT
SADDLE**
Tube/tube



□ mm	To Suit Ø mm	Code
40	42.4	1806311S40C

**ADJUSTABLE SPIGOT
SADDLE**
Tube/flat



□ mm	To Suit Ø mm	Code
40	Flat	1806312S40F

**90° FIXED SPIGOT
SADDLE**
Tube/flat



□ mm	To Suit Ø mm	Code
40	Flat	1806311S40F

**ADJUSTABLE HANDRAIL
BRACKET**
Wall/tube



□ mm	To Suit Ø mm	Code
40	42.4	1806303S40C

**ADJUSTABLE HANDRAIL
BRACKET**
Wall/flat



□ mm	To Suit	Code
40	Flat	1806303S40F

**2 HOLE BALUSTER
BRACKET**



□ mm	Code
40	1806256S40

**RECTANGULAR
BALUSTRADE BRACKET**



□ mm	Code
40	1806213S40

Weld fix.

90° ELBOW



□ mm	Code
40	1806202S40

3 WAY CORNER



□ mm	Code
40	1806204S40

LONG TEE



□ mm	Code
40	1806205S40

**ADJUSTABLE
ELBOW**



□ mm	Code
40	1806227S40

**IN-LINE
CONNECTOR**



□ mm	Code
40	1806206S40

FLAT TOP END CAP



□ mm	Code
40	1806215S40

COVER PLATE
To suit 1806207S40



□ mm	Code
40	1806208S40

**WELD ON BASE
PLATE**



□ mm	Code
40	1806207S40

TUBE



□ mm	Length m	Code
40	2.9	1806704S40
40	5.8	1806700S40

2.5mm thickness.

FOR SQUARE GLASS CLAMPS, PLEASE SEE PAGE 591.

WIRE ROPE SYSTEM



PLEASE CONSULT LOCAL BUILDING CONTROL FOR APPROVAL OF THIS SYSTEM.

Stainless steel 3 and 6mm 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.

7 HOLE END/MID POST

M6 eyebolts

14 HOLE MID STRAINING POST

M6 eyebolts

14 HOLE MID POST

Ø 6mm through holes

14 HOLE CORNER POST

M6 eyebolts

1100mm

80mm

52mm

132mm

Ø 48.3mm POST BASE PLATE

Ø 10.5mm

Ø 8.5mm

Ø 116mm

Ø mm

Code

48.3

1806741D

Ø mm

Code

48.3

1806742D

Ø mm

Code

48.3

1806742DT

Ø mm

Code

48.3

1806743D

THIMBLE

FERRULE

LOCKING COLLAR

To Suit Wire Ø mm	Code
3	1806610
6	1806670

To Suit Wire Ø mm	Code
3	1806609
3	1301609
6	1806669

To Suit Wire Ø mm	Code
3	1806604
6	1806664

304

316

Zinc

Zamac

Mild steel

Galvanised

Aluminium

Duplex

EYEBOLT CONNECTOR



Thread mm	To Suit Wire Ø mm	Code
M10	3	1806603
M6	3	1301603
M10	6	1806663

POST FITTING ADAPTOR RING



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

M6 thread.

No need to drill posts.



Example of post fitting adaptor ring with 6mm eyebolt code: **1806663**.

SWAGELESS CABLE TENSIONER



To Suit Wire Ø mm	Code
3	1806611
6	1806671

SWAGELESS BUCKLE



To Suit Wire Ø mm	Code
3	1806612
6	1806672

SWAGED CABLE TENSIONER



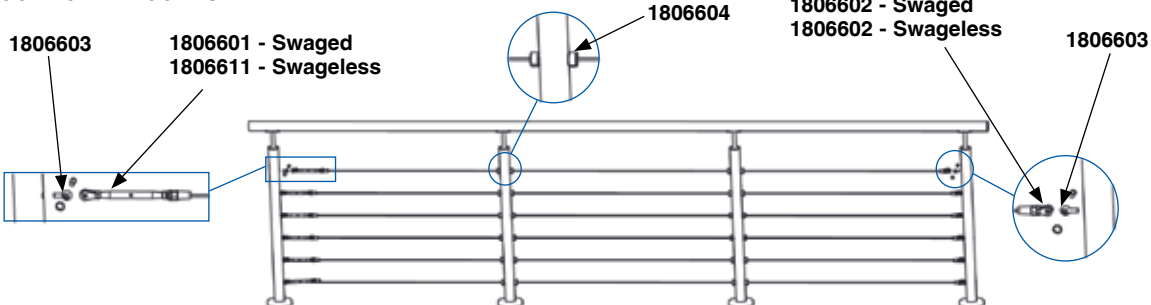
To Suit Wire Ø mm	Code
3	1806601
6	1806661

PLAIN BUCKLE CONNECTOR



To Suit Wire Ø mm	Code
3	1806602
6	1806662

3mm WIRE COMPONENT CODES



WIRE ROPE

1 x 19 strands



Length m	Thickness mm	Code
10	3	180660510
10	6	180666510
50	3	180660550
50	6	180666550
100	3	1806605100
100	6	1806665100

PAD EYE



To Suit Wire Ø mm	Code
3	1806608
6	1806668

Fixing holes Ø 4.5mm.

ARTICULATED WIRE TENSIONER



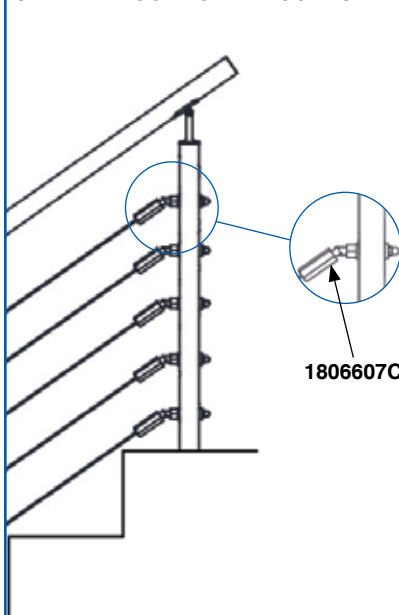
Ø mm	To Suit Wire Ø mm	Code
42.4	3	1804607C
42.4	3	1806607C
48.3	3	1806607D

EYEBOLT WOODSCREW THREAD



To Suit Wire Ø mm	Code
3	1806606
6	1806666

3mm WIRE COMPONENT CODES



WIRE ROPE SYSTEM



CABLE TENSIONER

For flat runs



To Suit Wire Ø mm	Size mm	Code
3	Flat	1806617
3	42.4	1806617C
3	48.3	1806617D
6	Flat	1806667
6	42.4	1806667C
6	48.3	1806667D

Includes 1 x threader cable tensioner, 1 x cover cap and 1 x end fitting.

CABLE TENSIONER

For stairs and slopes



To Suit Wire Ø mm	Size mm	Code
3	Flat	1806618
3	42.4	1806618C
3	48.3	1806618D
6	Flat	1806677
6	42.4	1806677C
6	48.3	1806677D

Includes 1 x threader cable tensioner, 1 x cover cap and 1 x end fitting.

UPWARD ANGLED WIRE ROPE HOLDER

For angles + / - 35°



To Suit Wire Ø mm	Size mm	Code
3	Flat	1806622
3	42.4	1806622C
3	48.3	1806622D
6	Flat	1806682
6	42.4	1806682C
6	48.3	1806682D

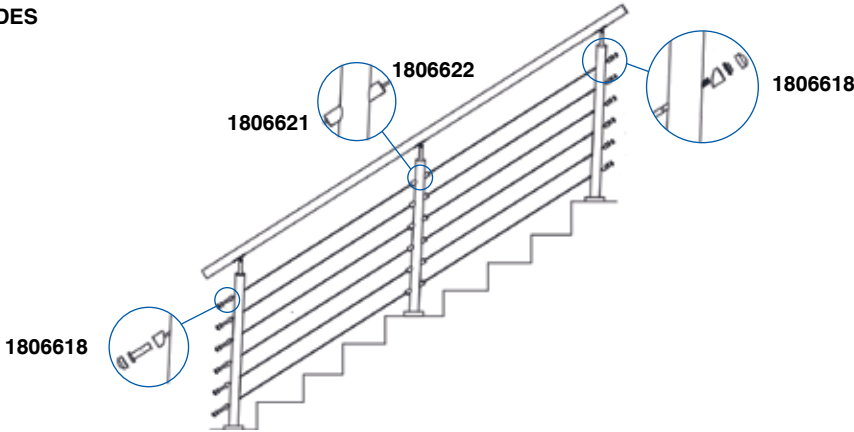
DOWNWARD ANGLED WIRE ROPE HOLDER

For angles + / - 35°



To Suit Wire Ø mm	Size mm	Code
3	Flat	1806621
3	42.4	1806621C
3	48.3	1806621D
6	Flat	1806681
6	42.4	1806681C
6	48.3	1806681D

3mm WIRE COMPONENT CODES



CABLE TENSIONER

Through fitting



To Suit Wire Ø mm	Size mm	Code
3	N/A	1806613
6	N/A	1806673

ANGLED WIRE ROPE HOLDER

Left hand side



To Suit Wire Ø mm	Size mm	Code
3 and 6	Flat	1806615
3	42.4	1806615C
3	48.3	1806615D

Please order screws code: 189900603.

ANGLED WIRE ROPE HOLDER

Middle



To Suit Wire Ø mm	Size mm	Code
3	Flat	1806616
3	42.4	1806616C
3	48.3	1806616D
6	Flat	1806676

Please order screws code: 189900603.

ANGLED WIRE ROPE HOLDER

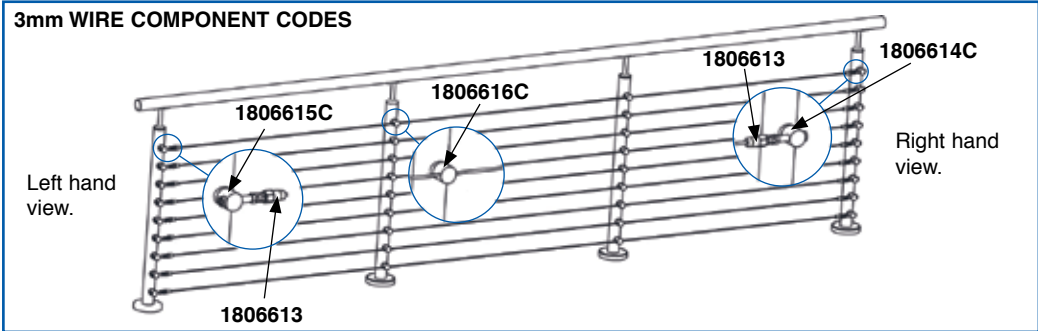
Right hand side



To Suit Wire Ø mm	Size mm	Code
3 and 6	Flat	1806614
3	42.4	1806614C
3	48.3	1806614D

Please order screws code: 189900603.

3mm WIRE COMPONENT CODES





WIRE ROPE SYSTEM

COVER CAP

With locking ends



To Suit Wire Ø mm	Code
3 and 6	1806619

END FITTING



To Suit Wire Ø mm	Code
3	1806624
6	1806684

CABLE RELEASE TOOL

For end fitting



To Suit Wire Ø mm	Code
3	1806620
6	1806680

INSTALLATION USING CABLE TENSIONER



Crimp wire into cable tensioner and insert through pre-drilled hole on starter post.



Add washer & nut and loosely tighten.



Insert end fitting through end post, pull tight, cut wire flush with fitting.



Screw on cover cap.

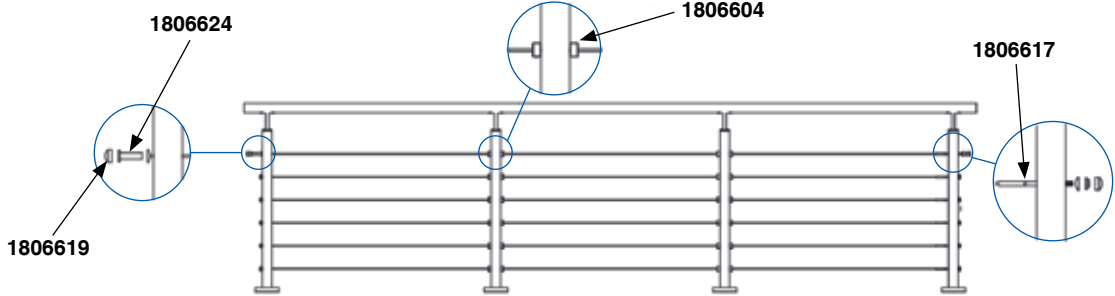


Tighten nut on starter post to bring the wire under tension.



Cut excess protruding thread and screw on cover cap.

3mm WIRE COMPONENT CODES



CRIMPING TOOL



Code
189900102

HYDRAULIC CRIMPING TOOL



Code
189900103

WIRE CUTTING TOOL



Code
080569

INSTANT ADHESIVE (50ml)

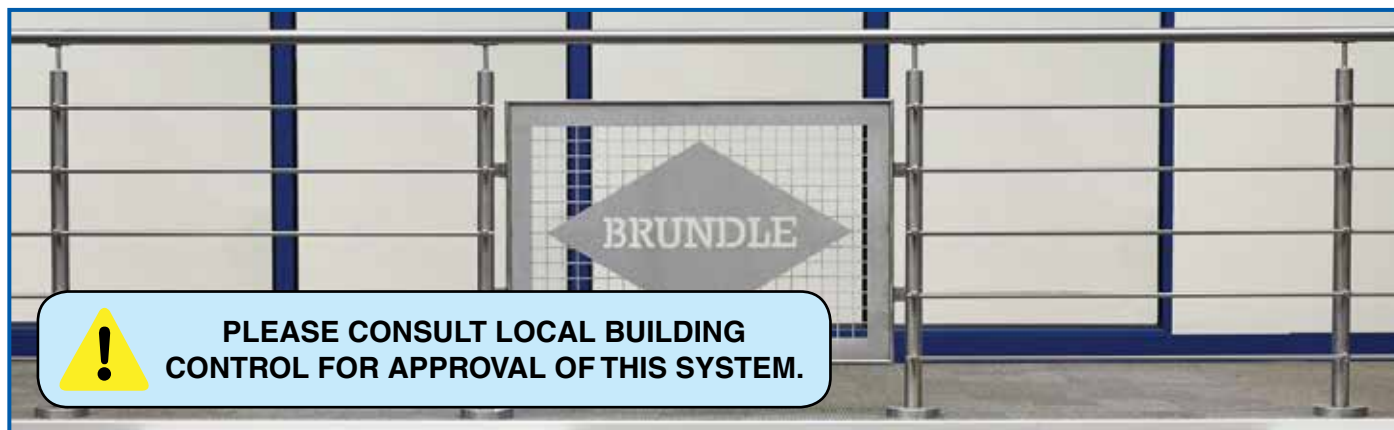
For use as thread lock adhesive



Code
1899007454

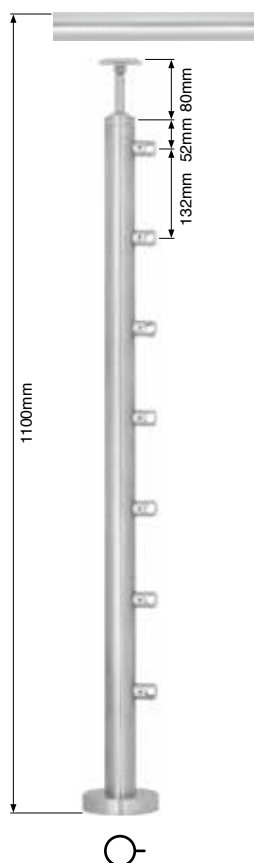
Supplied with plunger and needle for accurate application.

CROSSBAR SYSTEM



Our crossbar system can provide a modern handrail and balustrade for many applications. Offering 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.

ROUND 7 HOLE POST



Ø mm	Code
42.4	1806737C
48.3	1806737D

Fitted with 12mm bar/tube holders.

CROSSBAR HOLDER Flat mounting



Code
1804501F
1806501F

Ø 12.2mm through hole requires M6 fixing bolt code: 189900621.

2 PART ROUND BAR HOLDER



Code
13i006966*

Ø 12.2mm through hole. *Zinc plated.

CROSSBAR HOLDER Tube mounting



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

Ø 12.2mm through hole requires M6 fixing bolt code: 189900621.

CROSSBAR HOLDER Tube mounting



Ø mm	Code
48.3	1301501D

Ø 12.2mm through hole requires M6 fixing bolt code: 189900621. *Zinc plated.

CROSSBAR HOLDER Tube Fix



Code
13i006

Ø 12.2mm through hole. Zinc plated.

ANGLE JOINT CONNECTOR



Code
1804507
1806507

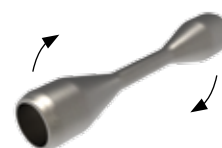
ADJUSTABLE CROSSBAR HOLDER



Ø mm	Code
48.3	1806509D
Flat	1806509F

Requires 6mm fixing bolt code: 189900621.

BENDABLE CORNER CONNECTOR



Code
1301507B

To suit Ø 12mm bar.

SOLID END BALL



Ø mm	Code
20	1301502
20	1804502
20	1806502

HOLLOW TUBE



Ø mm	Code
12	1804510
12	1806510

3m length.

SOLID BAR



Ø mm	Code
12	1804500
12	1806500

3m length.

BUTTON HEAD BOLT



Ø x L mm	Code
M6 x 20	189900621



The Mark You Can Trust

HOLLOW TUBE FOR HANDRAILS & POSTS



1.0m LENGTH

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

2mm thickness.

1.2m LENGTH

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

2mm thickness.

3.0m LENGTH

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

2mm thickness.

6.0m LENGTH

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

2mm thickness.

HOLLOW TUBE



SOLID BAR



SPLIT TUBE



HOLLOW TUBE



Ø mm	Length m	Code
12	3	1804510
12	3	1806510

1mm thickness.

Ø mm	Length m	Code
12	3	1804500
12	3	1806500

Ø mm	Length m	Code
18	3	1504P011

1.25mm thickness.

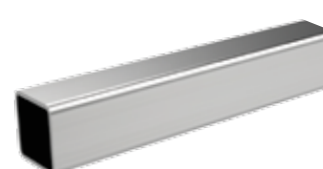
Ø mm	Length m	Code
42.4	6	13i0016000

2mm thickness. Zinc plated.

MIRROR FINISH HOLLOW TUBE



SQUARE HOLLOW TUBE



3.0m LENGTH

Ø mm	Code
42.4	1806704CM
48.3	1806704DM

2mm thickness.

6.0m LENGTH

Ø mm	Code
42.4	1806700CM
48.3	1806700DM

2mm thickness.

□ mm	Length m	Code
40	2.9	1806704S40
40	5.8	1806700S40

2.5mm thickness.

END CAPS

FLAT TOP



7 GROOVE FLAT TOP



RAISED TOP



DOME TOP



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

Ø mm	Code
42.4	1806274C
48.3	1806274D

Glue fit.

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

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

ALL STAINLESS FITTINGS ARE SUPPLIED IN A SATIN POLISH FINISH GRIT 320.
THEY CAN ALSO BE SUPPLIED IN A MIRROR POLISH FINISH.

HANDRAIL KIT



MODULAR KIT

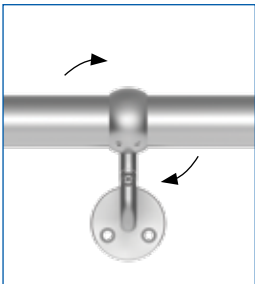


FLEXIBLE
EASY TO INSTALL
EASY TO EXTEND
LOOKS STUNNING



Length m	Ø mm	Code
1.2	42.4	1804803C

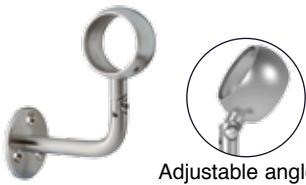
Kit includes 1.2m stainless steel Grade 304 tube and 2 x wall brackets.



EXTEND YOUR HANDRAIL KIT TO ANY LENGTH WITH THESE ADDITIONAL COMPONENTS.

HANDRAIL BRACKET

Wall/tube



Adjustable angle

Ø mm	Code
42.4	1804308FC

85mm distance from wall to centre of bracket.

HOLLOW TUBE



Ø mm	Code
42.4	1804708CL

1.2m length.

ADJUSTABLE ELBOW



Ø mm	Code
42.4	1804203C

IN-LINE CONNECTOR



Ø mm	Code
42.4	1804206C

SCROLL END



Ø mm	Code
42.4	1804221C

RAISED TOP



Ø mm	Code
42.4	1804215C

GRAB RAIL BRACKET

WALL/TUBE



Ø mm	Length mm	Code
42.4	42.5	1804309FC





RECTANGULAR HANDRAIL SYSTEM

TYPE 40 x 10mm



Our new 40 x 10mm rectangular handrailing system adds a contemporary look to your installation. It's easy to glue together and can work with any number of flat top saddle handrail brackets.

RECTANGULAR HANDRAIL

1.5mm wall thickness



Length m	Code
3.0	18067044010
6.0	18067004010

JOINER



Code
18062064010

90° JOINER



Code
18062024010

ADJUSTABLE CONNECTOR



Code
18062274010

END CAP



Code
18062144010

HANDRAIL BRACKET

Wall mounting



Code
18063054010

ADJUSTABLE HANDRAIL BRACKET

Glass/flat



Ø mm	To Suit	Code
50	Flat	1806334FF

82mm distance from glass to centre of bracket. To suit 12 - 30mm glass thickness.

ADJUSTABLE HANDRAIL BRACKET

Wall/flat



□ mm	To Suit	Code
40	Flat	1806303S40F

92mm distance from wall to centre of bracket. Requires threaded dowel code: 189900622 for wall fixing.

FREE* DELIVERY on orders over £150!



Wrought Iron Components



Perforated Metal



Expanded Metal



Welded Wire Mesh



Woven Wire Mesh



Gate Hardware



Gate Automation



Flooring & Stair Treads



Cantilever Gate Components



Steel Section



Sliding Door Gear



Handrailing & Components



Fixings & Tools



Tube Clamps



Crash Barrier



Gates & Railings



Fencings & Security



Working at Height

*Within our standard area and elsewhere at cost.

HANDRAIL BRACKETS



ADJUSTABLE HEIGHT - FIXED SPIGOT

FLAT/TUBE



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

65mm distance from flat to centre of bracket.

TUBE/TUBE



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

65mm distance from tube to centre of bracket.

WALL/TUBE



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

68mm distance from wall to centre of bracket.

GLASS/TUBE



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

82mm distance from glass to centre of bracket. To suit 12 - 30mm glass thickness.

FIXED SPIGOT

WALL/TUBE



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

63.5mm distance from wall to centre of bracket.

WALL/TUBE



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

85mm distance from wall to centre of bracket.

WALL/FLAT



Code
1804305FF

63.5mm distance from wall to centre of bracket.

SINGLE WALL MOUNT

WALL/TUBE



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

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

ADJUSTABLE SPIGOT WALL/TUBE



Adjustable angle

Ø mm	Code
42.4	1804308FC
48.3	1804308FD
42.4	1806308FC
48.3	1806308FD

85mm distance from wall to centre of bracket.

SATIN POLISH WELDABLE HANDRAIL BRACKET & COVER PLATE



Code
171166
171169

76mm distance from wall to centre of bracket.

HANDRAIL BRACKET PLATE & RUBBERS

To suit glass balustrading



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

Glass hole size Ø 22mm. M8 thread.

ALLEN KEY

For tightening grub screws in handrail brackets



Code
189900607

TOPS COME WITH 5mm FIXING HOLES. FOR FIXING SCREWS, SEE PAGE 585.

PRO-RAILING®

FIXED SPIGOT

FLOOR/TUBE



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

TUBE/TUBE



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

90° TUBE/TUBE



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

Height 60mm.

For 201 type elbows used with handrails.

ADJUSTABLE SPIGOTS

TUBE/TUBE



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

ADJUSTABLE HANDRAIL
SUPPORT BRACKET



Adjustable angle

Ø mm	Code
42.4	1804314CC
48.3	1804314DD
42.4	1806314CC
48.3	1806314DD

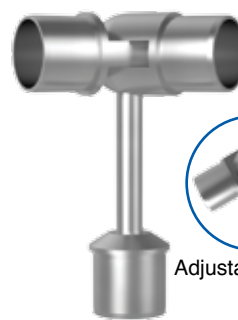
HANDRAIL SUPPORT BRACKETS

HANDRAIL BRACKET WITH
90° FIXED ELBOW



Ø mm	Code
42.4	1804311CCA
48.3	1804311DDA
42.4	1806311CCA
48.3	1806311DDA

HANDRAIL BRACKET WITH
+/- 90° ADJUSTABLE ELBOW



Adjustable angle

Ø mm	Code
42.4	1804317CCA
48.3	1804317DDA
42.4	1806317CCA
48.3	1806317DDA

FIXED SADDLE

90° CORNER TOP



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

135° ROUND CORNER TOP



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

STRAIGHT TOP



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

FIXINGS

COBALT DRILL BIT



Description	Code
4.2mm drill for 5mm self tapping screw	189901004
4.5mm drill for 5mm thread rolling bolt	189901005
5.5mm drill for 6mm thread rolling bolt	189901006

FIXINGS

COUNTERSUNK SCREW

For fixing saddle to spigot



Ø x L mm	Code
M6 x 20	189900603
M8 x 20	189900604

COUNTERSUNK SCREW

For fixing flat saddles



Ø x L mm	Code
M5 x 20	189900619

PAN HEAD SCREW

For fixing Ø 42.4 & 48.3mm saddles



Ø x L mm	Code
M5 x 20	189900620

BUTTON HEAD BOLT

For fixing handrail brackets, glass tube fittings & rod connectors



Ø x L mm	Code
M5 x 20	189900618

PAN HEAD THREAD
ROLLING BOLT

For fixing railing saddles to tube



Ø x L mm	Code
M5 x 20	189900686
M6 x 20	189900687

TUBE FITTINGS



**90° ELBOW
RADIUSED CORNER**



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

**90° ELBOW
ROUND CORNER**



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

**90° ELBOW
SQUARE CORNER**



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

135° ELBOW



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

**STAINLESS
WELDABLE ELBOW**



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

**ADJ. ELBOW
+/- 90°**



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

**ADJ. ELBOW
SMOOTH 0 - 90°**



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

ROTATING ELBOW



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

**ADJ. HANDRAIL
ADAPTOR**



Ø mm	Code
42.4	1806316CC
48.3	1806316DD

TUBE ADAPTOR



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

3 WAY CORNER



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

LONG TEE



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

4 WAY CROSS



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

SCROLL END



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

**IN-LINE
CONNECTOR**



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

**2 WAY ADJ.
FLUSH ANGLE**



Ø mm	Code
48.3	1804223D
48.3	1806223D



**3 WAY ADJ.
FLUSH ANGLE**



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

**PANEL INFILL
ADAPTOR**



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

Requires 6mm fixing bolt
code: **189900621**. Suits
material 1.5 - 10mm thick.

FLANGES & BASE PLATES

**EXTERNAL ROUND
TUBE FLANGE**



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

**SQUARE EDGE
TUBE FLANGE**



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

**WELDABLE ROUND
WALL FLANGE**



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

COVER PLATE
To suit 217



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

INTERNAL FIT FLOOR BASE
Glue fix



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

WELD ON ROUND BASE PLATE
With 'O' ring & cover



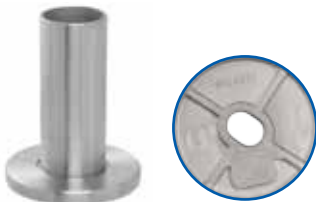
Ø mm	Code
42.4	1804228C
48.3	1804228D
42.4	1806228C
48.3	1806228D

**ADJUSTABLE ELBOW
TUBE FLANGE**



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

INTERNAL FIT TUBE FLANGE
Glue fix, No cover plate required



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

INTERNAL FIT TUBE FLANGE
Glue fix



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

INTERNAL FIT TUBE FLANGE
Hammer fix



Ø mm	Code
42.4	1804239C
48.3	1804239D
42.4	1806239C
48.3	1806239D

**WELD ON ROUND
BASE PLATE**



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

COVER PLATE



Ø mm	To Suit 207 Code	To Suit 225 Code	To Suit 235 Code
42.4	1804208C	1804226C	1804236C
48.3	1804208D	1804226D	1804236D
42.4	1806208C	1806226C	1806236C
48.3	1806208D	1806226D	1806236D

To keep stainless steel handrail & fittings in top condition long after installation, use our tea staining kit, see page 738.



BALUSTER BRACKETS



2 HOLE ROUND



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

2 HOLE ROUND
With tube support spigot



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

2 HOLE ROUND FOLDED
Weld fix



Ø mm	Code
42.4	1806256C
48.3	1806256D

**ADJUSTABLE CORNER -
INTERNAL/EXTERNAL**



Ø mm	Code
42.4	1806253C
48.3	1806253D

**4 HOLE ROUND
BACKING PLATE**



Code
1806254

Suitable for Ø 42.4 and 48.3mm.

**2 HOLE ROUND
BACKING PLATE**



Code
1804252
1806252

Suitable for Ø 42.4 and 48.3mm.

TUBE CLAMP



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

TUBE SUPPORT SPIGOT



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

RECTANGULAR BACK



Ø mm	Code
42.4	1806213C
48.3	1806213D

FASCIA BRACKET



Ø mm	Code
42.4	1806258C
48.3	1806258D

WALL BRACKET



Ø mm	Code
48.3	1806257D

TUBE SUPPORT



For extra support.

SINGLE SIDE SUPPORT



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

DOUBLE SIDE SUPPORT



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

TUBE TO WALL CONNECTOR













Ø mm	Code
42.4	1804255C
48.3	1804255D
42.4	1806255C
48.3	1806255D

IMAGE SHOWS TUBE TO WALL
CONNECTOR CODE: 1804255C.

PRO-RAILING®

**FOR OUR GLASS RANGE,
SEE PAGES 617 - 621.**

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 21.5mm thick glass, clamps can be used over any length of installation as well as slopes and staircases.

Code Group	Style	To Suit Glass Thickness	Fix Type	Description	Measurements	Page no.
400		<ul style="list-style-type: none"> 6mm 8mm 	<ul style="list-style-type: none"> Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 26mm Length: 40mm Depth: 16mm 	590
441		<ul style="list-style-type: none"> 10mm 	<ul style="list-style-type: none"> Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 304 & 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 42mm Length: 52mm Depth: 22mm 	590
401		<ul style="list-style-type: none"> 8mm 10mm 12mm 	<ul style="list-style-type: none"> Ø 42.4mm Ø 48.3mm Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 304, 316, Zamac & chrome mirror effect Satin polish effect, mirror & raw finish 	<ul style="list-style-type: none"> Height: 45mm Length: 63mm Depth: 28mm 	590
401180		<ul style="list-style-type: none"> 8mm 10mm 12mm 	<ul style="list-style-type: none"> Glass to glass 	<ul style="list-style-type: none"> Available in Stainless steel Grade 304 & 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 45mm Length: 107mm Depth: 28mm 	590
40190		<ul style="list-style-type: none"> 8mm 10mm 12mm 	<ul style="list-style-type: none"> Glass to glass 	<ul style="list-style-type: none"> Available in Stainless steel Grade 304 & 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 45mm Length: 73mm Width: 73mm Depth: 28mm 	590
440		<ul style="list-style-type: none"> 15mm 17.5mm 19mm 21.5mm 	<ul style="list-style-type: none"> Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 70mm Length: 60mm Depth: 41mm 	590
442		<ul style="list-style-type: none"> 6mm 8mm 10mm 	<ul style="list-style-type: none"> Ø 42.4mm Ø 48.3mm Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 45mm Length: 45mm Depth: 19.5mm 	591
402		<ul style="list-style-type: none"> 8mm 10mm 12mm 	<ul style="list-style-type: none"> Ø 42.4mm Ø 48.3mm Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 304, 316 & Zamac Satin polish effect, mirror & raw finish 	<ul style="list-style-type: none"> Height: 55mm Length: 60mm Depth: 35mm 	591
445		<ul style="list-style-type: none"> 15mm 17.5mm 19mm 21.5mm 	<ul style="list-style-type: none"> Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 316 Satin polish effect 	<ul style="list-style-type: none"> Height: 70mm Length: 60mm Depth: 44mm 	591
403		<ul style="list-style-type: none"> 8mm 10mm 12mm 	<ul style="list-style-type: none"> Ø 42.4mm Ø 48.3mm Flat 	<ul style="list-style-type: none"> Available in Stainless steel Grade 304 & 316 Satin polish effect 	<ul style="list-style-type: none"> Ø: 60mm Depth: 28mm 	592

GLASS CLAMPS



ROUND FRONT

**SATIN POLISH EFFECT
SMALL GLASS CLAMP**
Flat back



Glass mm	Code
6	1806400F06
8	1806400F

Not suitable for handrailing applications. Typical uses are for display and shelving.

**SATIN POLISH EFFECT
STAMPED GLASS CLAMP**
Flat back



Glass mm	Code
10	1804441F
10	1806441F

Not suitable for handrailing applications. Typical uses are for display and shelving.

RAW FINISH
Flat back



Glass mm	Back	Code
8	Flat	1802401FZ08
10	Flat	1802401FZ

Suitable for powder coating.

RAW FINISH
Round back



Glass mm	Ø mm	Code
8	42.4	1802401CZ08
10	42.4	1802401CZ
8	48.3	1802401DZ08
10	48.3	1802401DZ

Suitable for powder coating.

SATIN POLISH EFFECT
Flat back



Glass mm	Code
8	1802401F08
10	1802401F
8	1804401F08
10	1804401F
12	1804401F12
8	1806401F08
10	1806401F
12	1806401F12

SATIN POLISH EFFECT
Round back



Glass mm	Ø mm	Code
8	42.4	1802401C08
10	42.4	1802401C
8	48.3	1802401D08
10	48.3	1802401D
8	42.4	1804401C08
10	42.4	1804401C
12	42.4	1804401C12
8	48.3	1804401D08
10	48.3	1804401D
12	48.3	1804401D12
8	42.4	1806401C08
10	42.4	1806401C
12	42.4	1806401C12
8	48.3	1806401D08
10	48.3	1806401D
12	48.3	1806401D12

CHROME MIRROR EFFECT
Flat back



Glass mm	Back	Code
8	Flat	1802401FP08
10	Flat	1802401FP

CHROME MIRROR EFFECT
Round back



Glass mm	Ø mm	Code
8	42.4	1802401CP08
10	42.4	1802401CP

MIRROR FINISH
Flat back



Glass mm	Code
8	1806401FM08
10	1806401FM

MIRROR FINISH
Round back



Glass mm	Ø mm	Code
8	42.4	1806401CM08
10	42.4	1806401CM
8	48.3	1806401DM08
10	48.3	1806401DM

**FOR VARIABLE
FIXING BOLT
CODE: 189900602A,
SEE PAGE 591.**

**SATIN POLISH EFFECT
180° DOUBLE GLASS CLAMP**



Glass mm	Code
8	180440118008
10	1804401180
12	180440118012
8	180640118008
10	1806401180
12	180640118012

**SATIN POLISH EFFECT
90° DOUBLE GLASS CLAMP**



Glass mm	Code
8	18044019008
10	180440190
12	18044019012
8	18064019008
10	180640190
12	18064019012

**SATIN POLISH EFFECT
LARGE GLASS CLAMP**
Flat back



Glass mm	Code
15.0	1806440F
17.5	1806440F175
19.0	1806440F19
21.5	1806440F215

SQUARE FRONT

SATIN POLISH EFFECT SMALL GLASS CLAMP

Flat back



Glass mm	Code
6	1806442F06
8	1806442F08
10	1806442F

SATIN POLISH EFFECT SMALL GLASS CLAMP

Round back



Glass mm	Ø mm	Code
6	42.4	1806442C06
8	42.4	1806442C08
10	42.4	1806442C
6	48.3	1806442D06
8	48.3	1806442D08
10	48.3	1806442D

RAW FINISH

Round back



Glass mm	Ø mm	Code
8	42.4	1802402CZ08
10	42.4	1802402CZ
12	42.4	1802402CZ12

SATIN POLISH EFFECT

Round back



Glass mm	Ø mm	Code
8	42.4	1802402C08
10	42.4	1802402C
12	42.4	1802402C12
8	48.3	1802402D08
10	48.3	1802402D
12	48.3	1802402D12
8	42.4	1804402C08
10	42.4	1804402C
12	42.4	1804402C12
8	48.3	1804402D08
10	48.3	1804402D
12	48.3	1804402D12
8	42.4	1806402C08
10	42.4	1806402C
12	42.4	1806402C12
8	48.3	1806402D08
10	48.3	1806402D
12	48.3	1806402D12

SATIN POLISH EFFECT

Flat back



Glass mm	Code
8	1802402F08
10	1802402F
12	1802402F12
8	1804402F08
10	1804402F
12	1804402F12
8	1806402F08
10	1806402F
12	1806402F12

SPARE RUBBERS

Glass Clamp Code Group	Glass mm	Code
400	6.00	1899001S06
401	8.00	189900108
	8.76	18990010876
	10.00	189900110
	12.00	189900112
440	15.00	1899001L15
	17.50	1899001L175
	19.00	1899001L19
	21.50	1899001L215
442	6.00	189944206
	8.00	189944208
	10.00	189944210
	12.00	189900212
402	8.00	189900208
	10.00	189900210
	12.00	189900212
	15.00	1899002L15
445	17.50	1899002L175
	19.00	1899002L19
	21.50	1899002L215

SATIN POLISH EFFECT

LARGE GLASS CLAMP

Flat back



Glass mm	Code
15.0	1806440F
17.5	1806445F175
19.0	1806445F19
21.5	1806445F215

**FOR OUR GLASS RANGE,
SEE PAGES 617 - 621.**

FIXINGS

METAL SECURITY PINS

For Glass



Glass mm	Code
8 - 10	189900401
12	189900402

Requires a minimum Ø 10mm hole in glass.

PLASTIC SCREW COVER CAPS



Colour	Code
Grey	189900501
Silver	189900502

VARIABLE FIXING BOLT

To give +/- 5° adjustment



Ø x Length mm	Code
M8 x 20	189900602A

SOCKET HEAD CAP SCREW

For fixing glass clamps into posts



Ø x Length mm	Code
M8 x 20	13I0323*
M6 x 20	189900601
M8 x 20	189900602

*Zinc plated.

ALLEN KEY



To suit	Code
8mm bolts	189900605
6mm bolts	189900608

IN-LINE GLASS CONNECTORS



SATIN POLISH
Flat back



Glass mm	Code
8	1806403F08
10	1806403F
12	1806403F12

SATIN POLISH
Round back



Glass mm	Ø mm	Code
8	42.4	1806403C08
10	42.4	1806403C
12	42.4	1806403C12
8	48.3	1806403D08
10	48.3	1806403D
12	48.3	1806403D12

IN-LINE RUBBERS



Glass mm	Code
8	189900308
10	189900310
12	189900312

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 (code: **189900401** or **189900402**) and drilled glass must be used. Alternatively use our square glass clamps which come with a bottom location plate, so no drilling is required.

Location plate required on lower clamp.

X Pin - **189900401** or **189900402** not required

✓ Pin - **189900401** or **189900402** required
Requires a minimum Ø 10mm holes in glass.

X



**FOR OUR RANGE OF GLASS PANELS,
SEE PAGE 617.**



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 and powder coated after fabrication.

SPECIFICATION:

- Stainless steel Grade 316 dome nut
- Rubber washer
- 6mm plate & disc
- Suits 8 - 12mm thick glass
- Mild steel & stainless steel
- Countersunk stainless steel Grade 316 M8 bolt

SHORT SINGLE



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

*With stainless steel discs.

LONG SINGLE



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

*With stainless steel discs.

STRAIGHT DOUBLE



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

INTERNAL CORNER



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

EXTERNAL CORNER



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

NYLON SPACER



Ø mm	Code
15	1899405NS

ROUND DISC



Ø mm	Code
40	1899405RD

RUBBER INLAY



Ø mm	Code
40	1899405Ri

BOLT & DOME NUT



Ø x Length mm	Code
M8 x 34.6	1899405TA



Exploded view.



Reverse view.

WELDABLE GLASS CLAMPS



NO NEED FOR PRE-DRILLED GLASS!



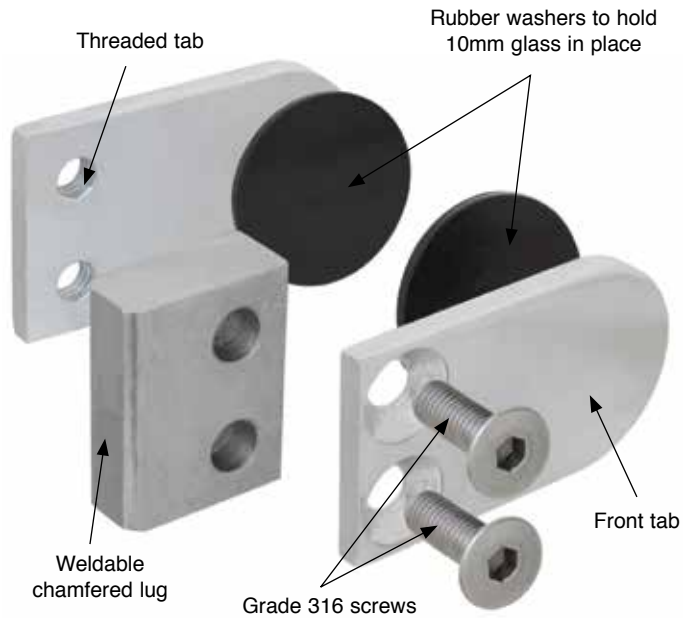
SPECIFICATION:

- Weldable lug
- Suitable for square or round steel posts
- Size 40 x 80 x 26mm
- No pre-drilled glass required
- Stainless steel Grade 316 flush 8mm screw
- Suitable for 10mm glass



Description	Code
BZP tabs with cast steel lug	1801401F
Satin polished 316 tabs with cast steel lug	1801401F316
Satin polished 316 tabs with cast stainless steel 316 lug	1806401W
Spare rubber washer for 1801401F clamp	1899001RW

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



PRO-RAILING®



FEATURES:

- A slimmer frameless panel support system
- To suit 10 - 21.5mm glass
- Supplied with rubbers
- BZP or Duplex 2205 (ultra marine stainless)
- Products are available in BZP and satin finish
- To join glass panels & tie glass panels back to the building

**WHERE NO HANDRAIL IS USED,
WE ALWAYS RECOMMEND
USING LAMINATE GLASS
SEE PAGE 621.**

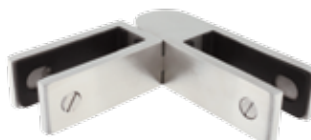
90° BRACKET



180° BRACKET



**ADJUSTABLE 90 - 180°
BRACKET**



WALL BRACKET

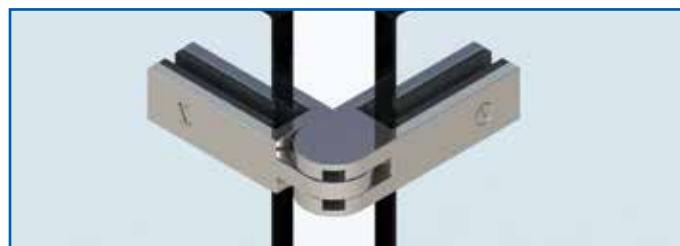


Glass mm	Code
10.00 - 12.00	180242112
13.52 - 15.00	180242115
16.76 - 19.00	180242119
20.00 - 21.50	180242122
10.00 - 12.00	182242112
13.52 - 15.00	182242115
16.76 - 19.00	182242119
20.00 - 21.50	182242122

Glass mm	Code
10.00 - 12.00	180242212
13.52 - 15.00	180242215
16.76 - 19.00	180242219
20.00 - 21.50	180242222
10.00 - 12.00	182242212
13.52 - 15.00	182242215
16.76 - 19.00	182242219
20.00 - 21.50	182242222

Glass mm	Code
10.00 - 12.00	180242312
13.52 - 15.00	180242315
16.76 - 19.00	180242319
20.00 - 21.50	180242322
10.00 - 12.00	182242312
13.52 - 15.00	182242315
16.76 - 19.00	182242319
20.00 - 21.50	182242322

Glass mm	Code
10.00 - 12.00	180242012
13.52 - 15.00	180242015
16.76 - 19.00	180242019
20.00 - 21.50	180242022
10.00 - 12.00	182242012
13.52 - 15.00	182242015
16.76 - 19.00	182242019
20.00 - 21.50	182242022



PRO-RAILING®

GLASS CONNECTOR

DOMED FRONT & BACK



Ø mm	Glass mm	Code
50	12 - 21.5	1806454



MIRROR FINISH PRE-ASSEMBLED POSTS

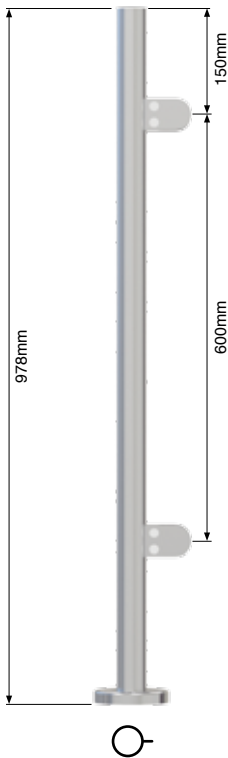


BOLT-DOWN



TESTED TO
BS 6180

END POST



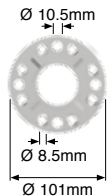
Ø mm	Code
42.4	1806791CM

MID POST

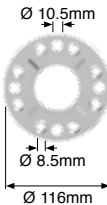


Ø mm	Code
42.4	1806792CM

Ø 42.4mm POST
BASE PLATE



Ø 48.3mm POST
BASE PLATE

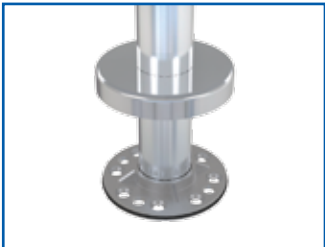


CORNER POST



Ø mm	Code
42.4	1806793CM

ALL POSTS HAVE:



Welded base fitting complete with rubber 'O' ring and cover.



Glass clamp for 10mm glass (8 and 12mm rubbers available).



Variable fixing bolt.

ALLEN KEY



Code
189900606



FOR OUR RANGE OF MIRROR FINISH FITTINGS, SEE PAGE 598





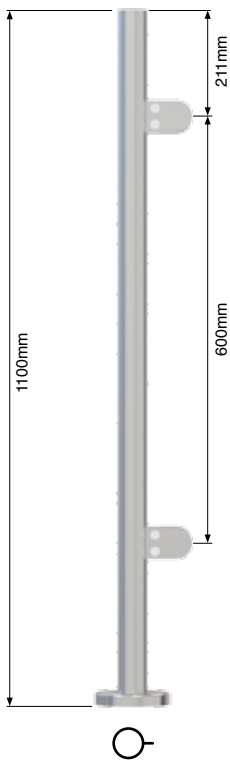
MIRROR FINISH PRE-ASSEMBLED POSTS

BOLT-DOWN



TESTED TO
BS 6180

END POST



Ø mm	Code
42.4	1806761CM

MID POST



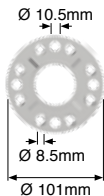
Ø mm	Code
42.4	1806762CM

CORNER POST

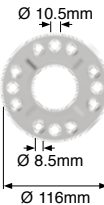


Ø mm	Code
42.4	1806763CM

Ø 42.4mm POST
BASE PLATE



Ø 48.3mm POST
BASE PLATE



Mirror finish offers better resistance to tea staining in coastal areas. but to keep stainless steel handrail & fittings in top condition long after installation, use our tea staining kit, see page 738.



FOR OUR MIRROR
FINISH SPLIT TUBE
FITTINGS, SEE
PAGE 599.

MIRROR FINISH HOLLOW TUBE



3.0m LENGTH

Ø mm	Code
42.4	1806704CM
48.3	1806704DM

2mm thickness.

6.0m LENGTH

Ø mm	Code
42.4	1806700CM
48.3	1806700DM

2mm thickness.

FOR OUR RANGE
OF GLASS PANELS,
SEE PAGE 617.

PRO-RAILING®

FOR OUR FULL RANGE OF PRE-ASSEMBLED POSTS SEE PAGE 567.

MIRROR FINISH FITTINGS



**HANDRAIL BRACKET
FIXED SPIGOT**
Wall/tube



Ø mm	Code
42.4	171176CM
48.3	171176DM

85mm distance from wall to
centre of bracket.

**90° FIXED SPIGOT
SADDLE**
Tube/tube



Ø mm	Code
42.4	1806311CCM

**ADJUSTABLE SPIGOT
SADDLE**
Tube/tube



Ø mm	Code
42.4	1806312CCM

**90° ELBOW ROUND
CORNER**



Ø mm	Code
42.4	1806201CM

ADJUSTABLE ELBOW



Ø mm	Code
42.4	1806203CM

**ADJUSTABLE ELBOW
SMOOTH**



Ø mm	Code
42.4	1806227CM

SCROLL END



Ø mm	Code
42.4	1806221CM

TUBE ADAPTOR



Ø mm	Code
42.4	1806313CCM

IN-LINE CONNECTOR



Ø mm	Code
42.4	1806206CM

**EXTERNAL ROUND
TUBE FLANGE**



Ø mm	Code
42.4	1806209CM

**2 HOLE BALUSTER
BRACKET**



Ø mm	Code
42.4	1806212CM

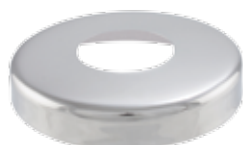
WELD ON BASE PLATE
With 'O' ring & cover



Ø mm	Code
42.4	1806228CM

COVER PLATE

To suit 235C, see page 587



Ø mm	Code
42.4	1806236CM

RAISED TOP END CAP



Ø mm	Code
42.4	1806215CM

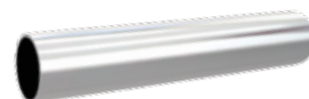
**7 GROOVE FLAT TOP
END CAP**



Ø mm	Code
42.4	1806274CM
48.3	1806274DM

Glue fit.

TUBE



Ø mm	Length m	Code
42.4	3	1806704CM
42.4	6	1806700CM
48.3	3	1806704DM
48.3	6	1806700DM

2mm thickness.



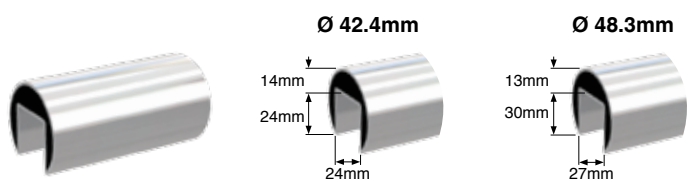
MIRROR FINISH SPLIT TUBE RAIL SYSTEM

Ø 42.4 & 48.3mm PROFILES



SPLIT TUBE
1.5mm wall thickness

GASKET



3m LENGTH

6m LENGTH

Ø mm	Code
42.4	18067053CM
48.3	18067053DM

Ø mm	Code
42.4	1806705CM
48.3	1806705DM

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

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

90° HORIZONTAL CORNER

**25 - 55° DOWNWARDS
ADJUSTABLE CONNECTOR**

**25 - 55° UPWARDS
ADJUSTABLE CONNECTOR**



Ø mm	Code
42.4	1806411CM
48.3	1806411DM

Ø mm	Code
42.4	1806416CM
48.3	1806416DM

Ø mm	Code
42.4	1806417CM
48.3	1806417DM

END CAP

WALL/FLOOR FLANGE

TUBE ADAPTOR

IN-LINE CONNECTOR



Ø mm	Code
42.4	1806413CM
48.3	1806413DM

Ø mm	Code
42.4	1806415CM
48.3	1806415DM

Ø mm	Code
42.4	1806414CM

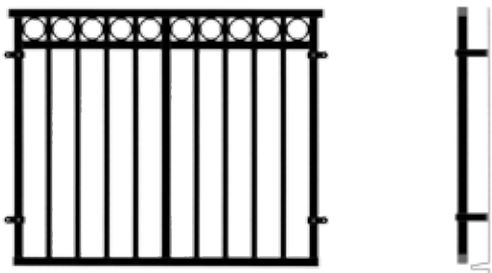
Ø mm	Code
42.4	1806412CM
48.3	1806412DM

PRO-RAILING®

TRADITIONAL JULIET BALCONY



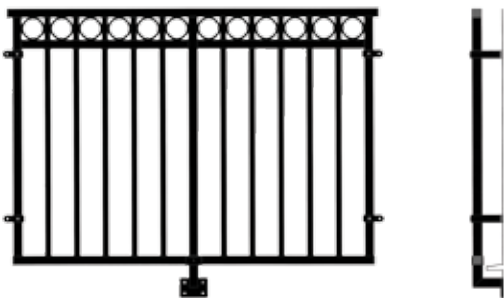
SMALL PANEL



Width mm	Height mm	Frame □ mm	Bar ■ mm	Code
1314	1120	38	25	58JB13

Supplied with plastic caps and side fixing brackets.
UV powder coated stylish black sand RAL 9005.

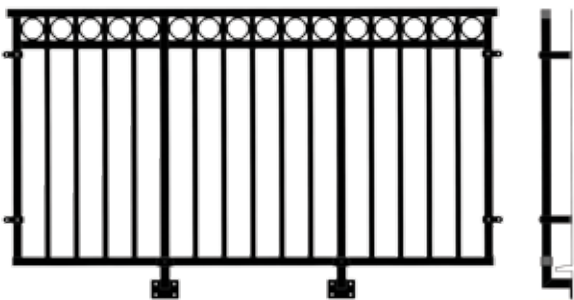
MEDIUM PANEL



Width mm	Height mm	Frame □ mm	Bar ■ mm	Code
1564	1120	38	25	58JB16

Supplied with plastic caps, bottom and side fixing brackets.
UV powder coated stylish black sand RAL 9005.

LARGE PANEL



Width mm	Height mm	Frame □ mm	Bar ■ mm	Code
2077	1120	38	25	58JB21

Supplied with plastic caps, bottom and side fixing brackets.
UV powder coated stylish black sand RAL 9005.



YOUR JULIET BALCONY WILL BE SUPPLIED WITH THE APPROPRIATE NUMBER OF BRACKETS, FIXINGS AND CAPS.

SIDE FIXING BRACKETS



BOTTOM FIXING BRACKETS



PLASTIC CAPS



BRACKETS FOR MAKING YOUR OWN JULIET BALCONIES.

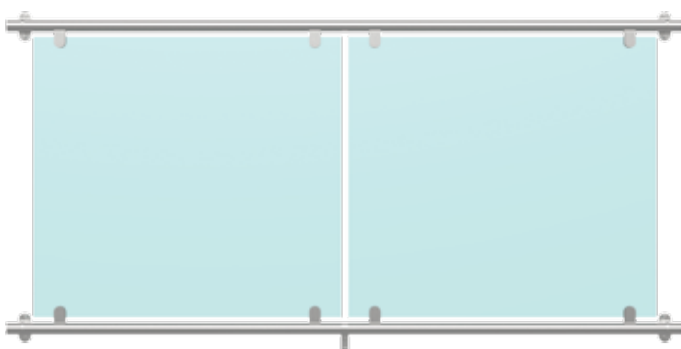
Bracket	Code
Side fixing	58JBSFB
Bottom fixing	58JBBFB

FOR OUR FULL RANGE OF PLASTIC CAPS SEE PAGE 31.

FOR GLASS JULIET BALCONIES, PLEASE SEE PAGE 601.



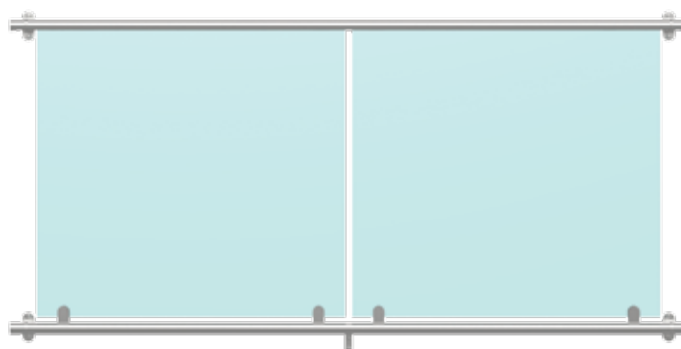
GLASS CLAMPS ON TOP & BOTTOM RAIL KIT



Opening Width mm	Overall Width mm	Ø mm	Glass Thickness mm	Code
2300	2650	48.3	10	18068JBGC

Please order glass panels separately. Supplied with four wall brackets and one trellis bracket.

SPLIT TUBE ON TOP RAIL & GLASS CLAMPS ON BOTTOM RAIL KIT



Opening Width mm	Overall Width mm	Ø mm	Glass Thickness mm	Code
2300	2650	48.3	10	18068JBST

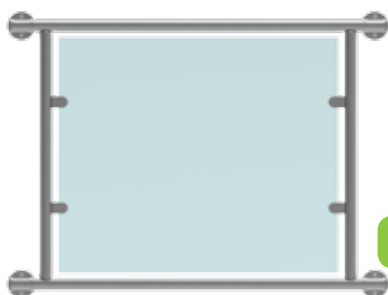
Please order glass panels separately. Supplied with four wall brackets and one trellis bracket.



FOR EXTRA WALL OR TUBE SUPPORT BRACKETS, SEE PAGE 588.

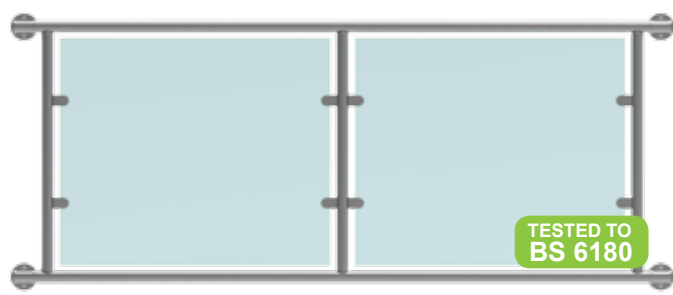
FOR OUR FULL RANGE OF GLASS PANELS, SEE PAGES 617 - 621.

JULIET BALCONY KIT



TESTED TO BS 6180

SINGLE DOOR KIT



TESTED TO BS 6180

DOUBLE DOOR KIT

Finish	Ø mm	Max Opening m	Glass H x W mm	Code
Satin	48.3	1.1	925 x 1100	1806811D
Mirror	48.3	1.1	925 x 1100	1806811DM

To suit 10mm glass thickness. If glass is required please order code: **1855101100925**.

Finish	Ø mm	Max Opening m	Glass H x W mm	Code
Satin	48.3	2.3	925 x 1100	1806812D
Mirror	48.3	2.3	925 x 1100	1806812DM

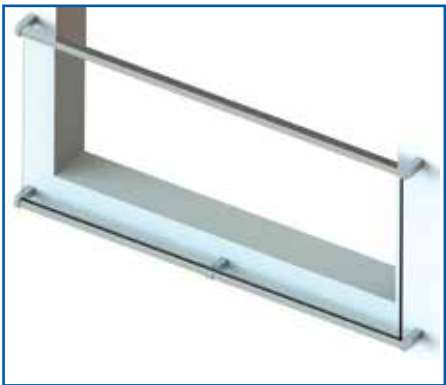
To suit 10mm glass thickness. If glass is required please order code: **1855101100925 x 2**.

BOTH KITS REQUIRE UPRIGHT POSTS TO BE GLUED TO CROSS RAILS.

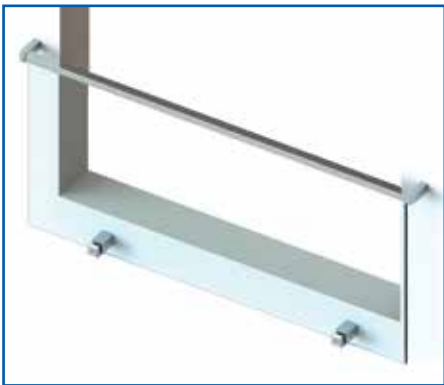
ELEGANCE JULIET BALCONY



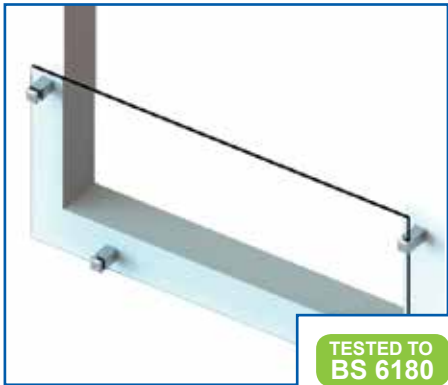
TOP & BOTTOM RAILS



TOP RAIL ONLY



FULLY FRAMELESS

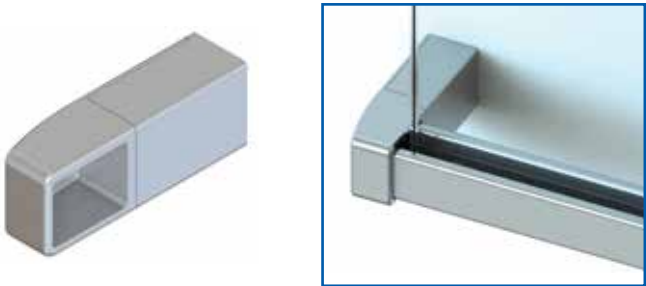


TESTED TO
BS 6180

FEATURES:

- To suit 40 x 30mm rectangular top rail system, see page 564
- No welding required
- Designed for 12 - 21.5mm glass
- Reduced visual impact
- Glass is 80mm off the wall
- All products are satin polish finish

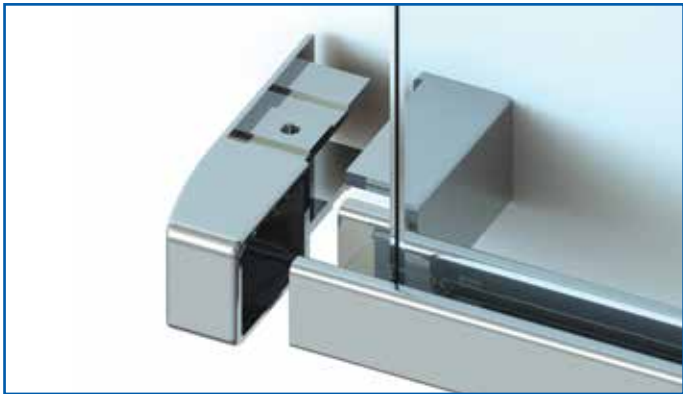
BRACKET SET



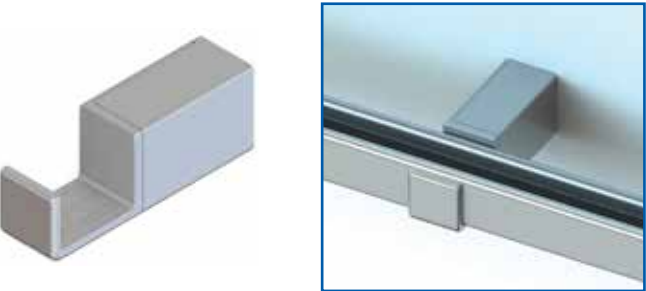
Fixing Holes Ø mm	Code
12	1822JBS4030

Sold in pairs, Left & right hand side.

EXPLODED BRACKET

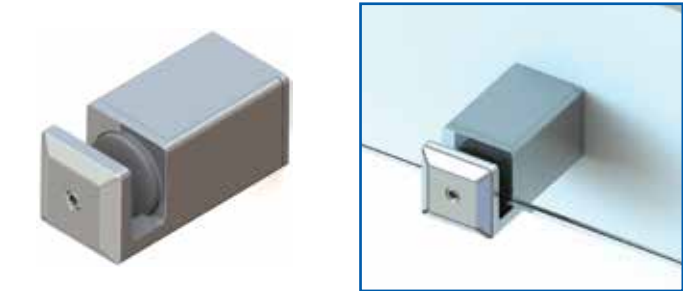


CENTRE SUPPORT BRACKET



Fixing Hole Ø mm	Code
12	1822CSB4030

GLASS SUPPORT BRACKET



Fixing Hole mm	Code
13 x 22	1822GSBS

SPLIT TUBE



Length m	Code
5.8	18227054030

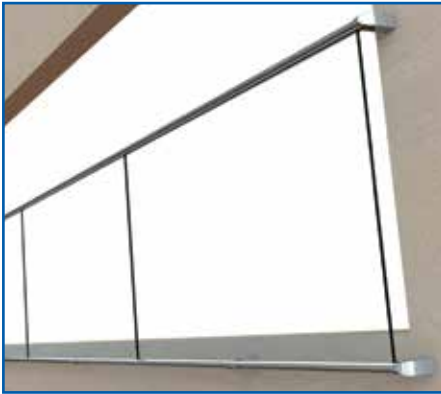
GASKET



To Suit Glass mm	Length m	Code
8 - 11	1	189903811C
11.5 - 13.5	1	189903115135C
15	1	18990315C
16 - 17.5	1	18990316175C
19	1	18990319C
20 - 21.5	1	18990320215C

FOR OUR FULL RANGE OF GLASS
PANELS, SEE PAGES 617 - 621.

TOP & BOTTOM RAILS



TOP RAIL ONLY



FULLY FRAMELESS



TESTED TO
BS 6180

FEATURES:

- To suit 60 x 30mm oval top rail system, see page 565
- No welding required
- Designed for 12 - 21.5mm glass
- Reduced visual impact
- Glass is 80mm off the wall
- All products are satin polish finish

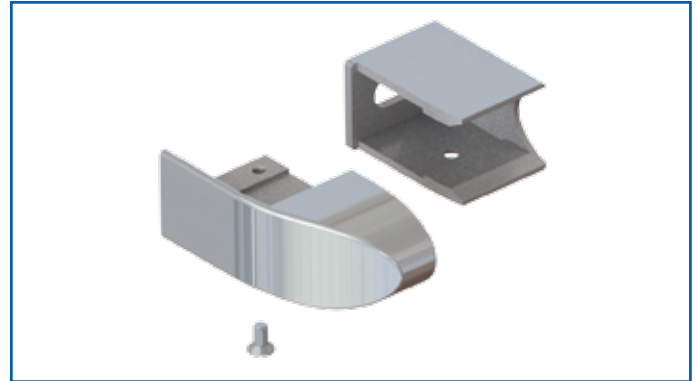
BRACKET SET



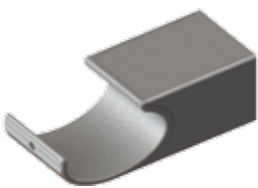
Fixing Hole Ø mm	Code
12	1822JBS6030

Sold in pairs, Left & right hand side.

EXPLODED BRACKET



CENTRE SUPPORT BRACKET



Fixing Hole Ø mm	Code
12	1822CSB6030

GLASS SUPPORT BRACKET



Fixing Hole mm	Code
13 x 22	1822GSBR

SPLIT TUBE



Length m	Code
5.8	18227056030

GASKET



To Suit Glass mm	Length m	Code
8 - 11	1	189903811C
11.5 - 13.5	1	189903115135C
15	1	18990315C
16 - 17.5	1	18990316175C
19	1	18990319C
20 - 21.5	1	18990320215C

**FOR OUR FULL RANGE OF GLASS
PANELS, SEE PAGES 617 - 621.**

SKY FORCE BALCONY



THE SYSTEM OF INVISIBILITY



Sky Force French balcony is the first practically invisible system on the market. Cost effective and simple to install thanks to its 'slide & click' design, it can be mounted directly on the window frame or masonry. Best of all, Sky Force can cover widths of up to 3000mm with only one 2-part balcony kit.

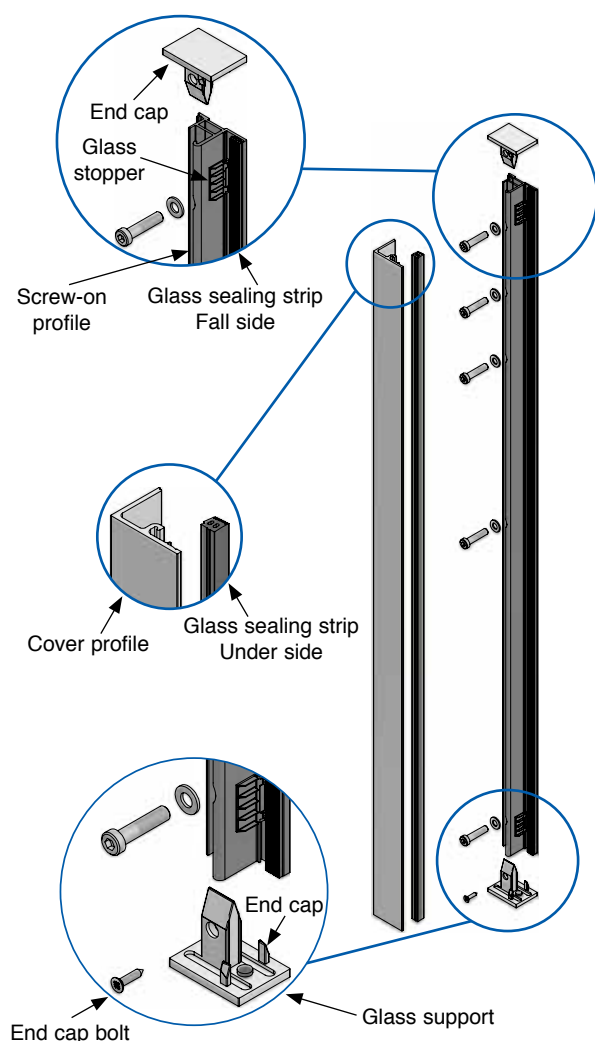
FEATURES:

- Quick and simple mounting on stone, concrete, steel, plastic, aluminium & wooden frames
- Max. width up to 3000mm
- Aluminium anodised
- With drainage channel
- Suitable for 10 - 21.52 mm glass
- General building inspection test certificate ABP & BS 6180

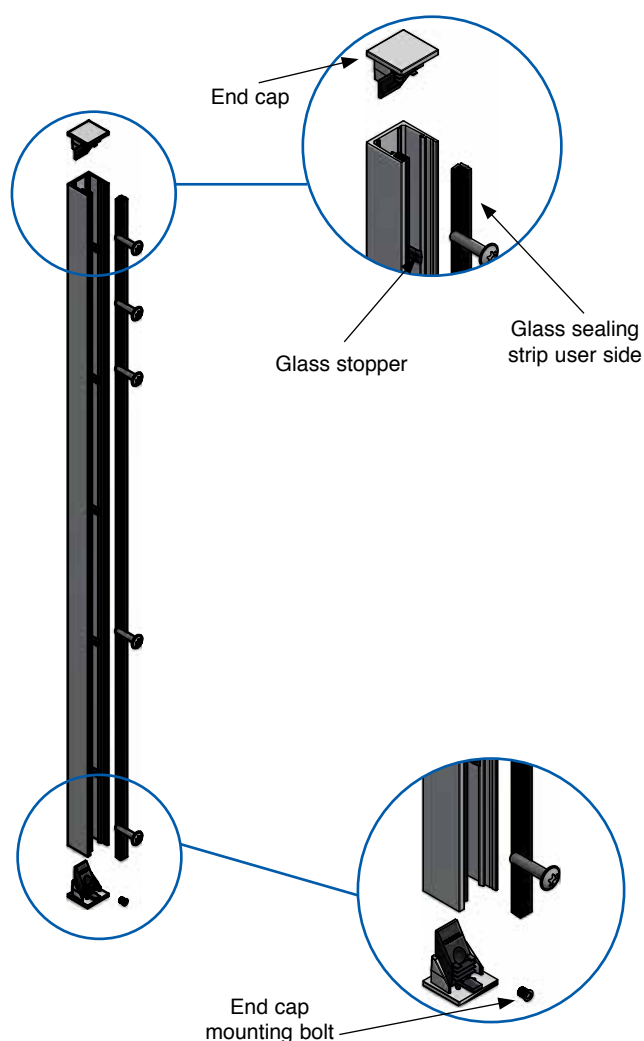
KIT INCLUDES:

Each 2-part balcony kit includes two sets of the parts listed below, for the left & right hand side of the balcony. Centrepiece includes one set of the top-fix parts listed below.

TOP-FIX



SIDE-FIX



PRO-RAILING®

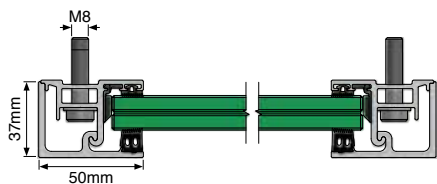
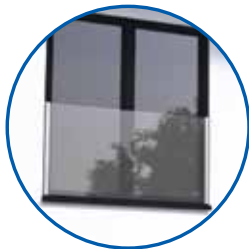
304	316	Zinc	Zamac	Mild steel	Galvanised	Aluminium	Duplex
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SKY FORCE BALCONY

THE SYSTEM OF INVISIBILITY

TOP-FIX 2-PART BALCONY KIT

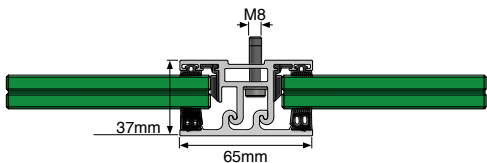


Glass Thickness mm	1000mm Height Code	1100mm Height Code
10.0 - 11.0	18057BK1010	18057BK1110
12.0 - 13.5	18057BK1012	18057BK1112
15.0	18057BK1015	18057BK1115
16.0 - 17.5	18057BK10175	18057BK11175
19.0	18057BK1019	18057BK1119
20.0 - 21.5	18057BK10215	18057BK11215

Glass not included.

TOP-FIX CENTREPIECE

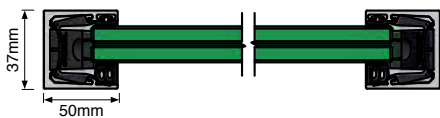
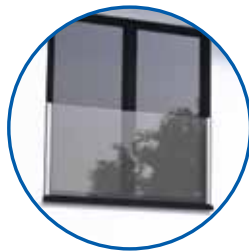
For added support



Glass Thickness mm	1000mm Height Code	1100mm Height Code
10.0 - 11.0	18057CP1010	18057CP1110
12.0 - 13.5	18057CP1012	18057CP1112
15.0	18057CP1015	18057CP1115
16.0 - 17.5	18057CP10175	18057CP11175
19.0	18057CP1019	18057CP1119
20.0 - 21.5	18057CP10215	18057CP11215

Glass not included.

SIDE-FIX 2-PART BALCONY KIT



Glass Thickness mm	1000mm Height Code	1100mm Height Code
10.0 - 11.0	18057BKS1010	18057BKS1110
12.0 - 13.5	18057BKS1012	18057BKS1112
15.0	18057BKS1015	18057BKS1115
16.0 - 17.5	18057BKS10175	18057BKS11175
19.0	18057BKS1019	18057BKS1119
20.0 - 21.5	18057BKS10215	18057BKS11215

Glass not included.

**CONSULT A STRUCTURAL ENGINEER /
LOCAL BUILDING CONTROL FOR APPROVAL
ON GLASS THICKNESS & LOADINGS.**



PRO-RAILING®

WE CAN SUPPLY GLASS TO ORDER, PLEASE CALL YOUR LOCAL BRANCH.

SKY FORCE BALCONY



THE SYSTEM OF INVISIBILITY

ACCESSORIES

Each balcony kit requires 10 fixing anchors, that's 5 per post to fix onto a frame. Centrepiece requires 5 fixing anchors.

FIXING ANCHOR
For plastic frames



Length mm	Code
45	1899006132
55	1899006133
65	1899006134
75	1899006135
85	1899006136
95	1899006137
105	1899006138
125	1899006139
150	1899006140

Suitable for top-fix and side-fix kits. Pack of 20.

FIXING ANCHOR
For aluminium frames



Description	Code
Top-Fix	1899006115
Side-Fix	1899006128

Pack of 10.

FIXING ANCHOR
For stone



Description	Code
Top-Fix	1899006118
Side-Fix	1899006131

Pack of 10.

FIXING ANCHOR
For steel



Description	Code
Top-Fix	1899006117
Side-Fix	1899006129

Pack of 10.

FIXING ANCHOR
For wooden frames



Description	Code
Top-Fix	1899006116

Suitable for top-fix only. Pack of 10.

FIXING ANCHOR
For concrete



Description	Code
Top-Fix	1899006119
Side-Fix	1899006130

Pack of 10.

ASSEMBLY TOOL
For rubber sealing strips



Code
1899006RAT

GLASS GATE HARDWARE

MAGNETIC LATCH
Glass to glass



Glass Thickness mm	Code
8 - 12	1806517

No holes in glass required, screws compress plate onto glass.

SELF-CLOSING HINGE
Glass to glass



Glass Thickness mm	Code
8 - 12	1806515

Sold in pairs.

MAGNETIC LATCH
Glass to post



Glass Thickness mm	Code
8 - 12	1806518C

SELF-CLOSING HINGE
Glass to post



Glass Thickness mm	Code
8 - 12	1806516C

Sold in pairs.

LATCH & CATCH



Ø mm	Code
42.4	1806513C
48.3	1806513D

GATE HINGE PIN & BOLT



Ø mm	Code
42.4	1806514C
48.3	1806514D

SELF-CLOSING GLASS GATE HINGE



Type	To Suit Ø mm	Code
Vinyl	50	05GC09

For fixing 8 and 10mm glass weighing up to 25kg on to round posts. Glass needs to be pre-drilled. Sold in pairs.

SELF-CLOSING SAFETY GATE HINGE



Description	Code
For stainless tube	18SGH

PRO-RAILING®

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REAL TIME DESIGN

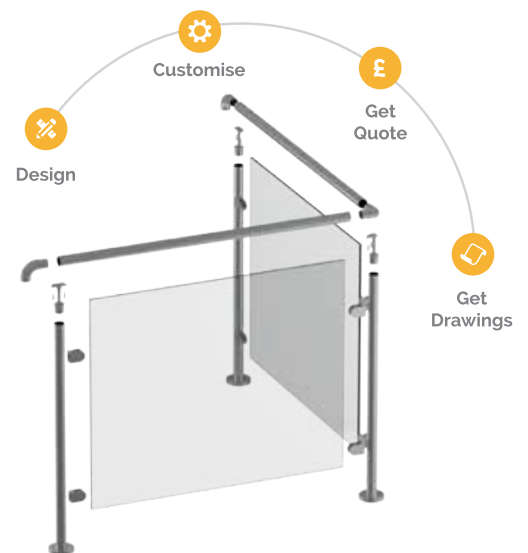


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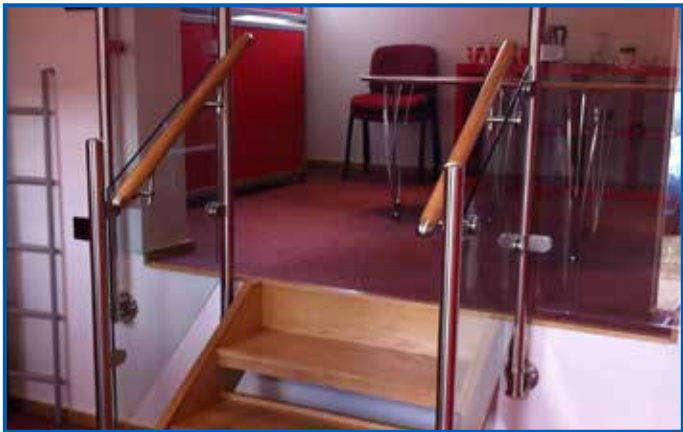


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- A choice of styles, layouts and components
- Makes installation easier and faster

WOODEN HANDRAIL SYSTEMS












Ø 45mm HANDRAIL







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.

FITTINGS TO SUIT Ø 45mm WOODEN HANDRAILS

FLAT END CAP	ROUNDED END CAP	'T' FITTING	HANDRAIL CONNECTOR	ELBOW ROUND CORNER										
														
<table border="1"><tr><td>Code</td></tr><tr><td>1807214C</td></tr></table>	Code	1807214C	<table border="1"><tr><td>Code</td></tr><tr><td>1807215C</td></tr></table>	Code	1807215C	<table border="1"><tr><td>Code</td></tr><tr><td>1807205C</td></tr></table>	Code	1807205C	<table border="1"><tr><td>Code</td></tr><tr><td>1807206C</td></tr></table>	Code	1807206C	<table border="1"><tr><td>Code</td></tr><tr><td>1807201C</td></tr></table>	Code	1807201C
Code														
1807214C														
Code														
1807215C														
Code														
1807205C														
Code														
1807206C														
Code														
1807201C														
ELBOW SQUARE CORNER	ADJUSTABLE ELBOW	STRAIGHT HANDRAIL SUPPORT	CRANKED HANDRAIL SUPPORT											
		<div>Threaded insert & set screw supplied</div> 	<div>Threaded insert & set screw supplied</div> 											
<table border="1"><tr><td>Code</td></tr><tr><td>1807202C</td></tr></table>	Code	1807202C	<table border="1"><tr><td>Code</td></tr><tr><td>1807203C</td></tr></table>	Code	1807203C	<table border="1"><tr><td>Code</td></tr><tr><td>1807303FC</td></tr></table>	Code	1807303FC	<table border="1"><tr><td>Code</td></tr><tr><td>1807305FC</td></tr></table>	Code	1807305FC			
Code														
1807202C														
Code														
1807203C														
Code														
1807303FC														
Code														
1807305FC														
SPARE PLASTIC SUPPORT	DRILLING GUIDE FOR FITTING END STOPS	DRILLING TEMPLATE For Ø 45mm wooden handrail												

								
<table border="1"><tr><td>Code</td></tr><tr><td>189900701</td></tr></table>	Code	189900701	<table border="1"><tr><td>Code</td></tr><tr><td>189900702</td></tr></table>	Code	189900702	<table border="1"><tr><td>Code</td></tr><tr><td>189900101</td></tr></table>	Code	189900101
Code								
189900701								
Code								
189900702								
Code								
189900101								

Ø 45mm SOFTWOOD FOR INTERNAL USE

UNTREATED	VARNISHED	BEECH EFFECT	WENGÉ EFFECT																								
																											
<table border="1"><tr><th>Length m</th><th>Code</th></tr><tr><td>2.0</td><td>18077032</td></tr><tr><td>3.0</td><td>18077033</td></tr></table>	Length m	Code	2.0	18077032	3.0	18077033	<table border="1"><tr><th>Length m</th><th>Code</th></tr><tr><td>2.0</td><td>18077012</td></tr><tr><td>3.0</td><td>18077013</td></tr></table>	Length m	Code	2.0	18077012	3.0	18077013	<table border="1"><tr><th>Length m</th><th>Code</th></tr><tr><td>2.0</td><td>18077002</td></tr><tr><td>3.0</td><td>18077003</td></tr></table>	Length m	Code	2.0	18077002	3.0	18077003	<table border="1"><tr><th>Length m</th><th>Code</th></tr><tr><td>2.0</td><td>18077022</td></tr><tr><td>3.0</td><td>18077023</td></tr></table>	Length m	Code	2.0	18077022	3.0	18077023
Length m	Code																										
2.0	18077032																										
3.0	18077033																										
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2.0	18077002																										
3.0	18077003																										
Length m	Code																										
2.0	18077022																										
3.0	18077023																										



These three fittings have been developed for wood-to-wood and wood-to-stainless balustrades, allowing a smooth transition between Ø 48.3mm solid wooden handrail and all of the standard Ø 48.3mm Pro-Railing tube and fittings.

FITTINGS TO SUIT Ø 48.3mm WOODEN HANDRAILS

END CAP



Code
1807230D
1807233D

Requires code: 1807232D.

CONNECTOR



Code
1807231D
1807234D

Fixing hole Ø 6mm.

ADAPTOR



Code
1807232D

Not supplied with screws.
Fixing hole Ø 6mm.

HOW TO USE THESE FITTINGS



STAINLESS/WOOD
FUSION

SCROLL END TO WOOD

END CAP

WOOD TO WOOD
CONNECTOR

90° ELBOW TO WOOD



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.

Ø 48.3mm HARDWOOD FOR EXTERNAL USE

STEAMED BEECH

SAPELE

AMERICAN WHITE OAK

EUROPEAN BROWN OAK



Length m	Code
2.0	18077042
3.0	18077043

Length m	Code
2.0	18077052
3.0	18077053

Length m	Code
2.0	18077062
3.0	18077063

Length m	Code
2.0	18077072
3.0	18077073

LED HANDRAIL



Illumirail is a stylish and practical lighting application for incorporating into handrailing installations. With the option of RGB, coloured and bright white LEDs, it doesn't just aesthetically provide the finishing touch to any handrail project, it also offers a solution to safety and security issues surrounding dark stairwells and walkways. Illumirail can be fitted in wall mounted or post mounted handrailing.

THERE ARE 2 CHOICES FOR ILLUMINATING YOUR HANDRAIL:

- Bar System - fitted into our standard split tube handrail
- Pod System - can be fitted in any round Ø 42.4 - 48.3mm handrail system. Ideal retrofit solution.

Illumirail is ideal for specification in a wide range of applications including residential, restaurants, offices, night clubs, leisure and retail. In fact anywhere that requires illumination, inside or out, with Stainless Steel Grade 316 as standard. Both systems are waterproof and fully rated to IP67. They can be used with PIR movement sensors, daylight sensors (dusk to dawn) and the solid colours can also be linked into emergency lighting back-up systems.

Illumirail uses 24V DC for LED bar and 12V DC for POD, LED bar requires 100W and POD required 70W transformers connected to 230V AC 50Hz mains supply.

CHOOSE YOUR INTERNAL/EXTERNAL HANDRAILING COLOURS WITH OUR COLOURTOUCH 4.3" CONTROLLER



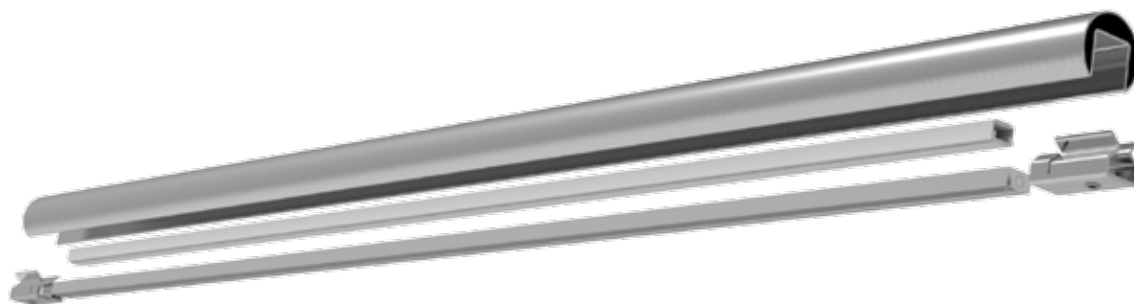
With thousands of colours to choose from, it's easy to create the right mood or ambience in any environment.

The ColourTouch 4.3" controller is at the heart of the RGB bar system enabling it to change colour, flash, pulse, dim and fade on and off. The ColourTouch controller can be sited in any location up to 50m from the installation and requires a 24V DC supply. Where this is outdoor, the unit must be contained within a waterproof enclosure.

Both our Bar and POD systems can be used with a variety of infill options such as glass, wire rope or our 7 bar systems.

LED BAR INSTALLATION

Exploded View



Our Illumirail LED bar fits discreetly and securely into our Ø 42.4mm split tube. It can be fitted with an optional trunking that offers a tidy cable management system. Plus a full range of fittings to provide a handrailing solution that can work on post or wall mounted handrails.

Illumirail LED bar is available in both 425 and 850mm lengths. The standard length is 850mm and is designed to fit between our 1200mm Pro-Railing post centres.

STANDARD COLOURS:

- Warm white (3000K), 1035 lumens per metre and 135 lumens per watt
- RGB (colour changing)

Single colour LED bars in red, green, blue and yellow are available to order. Please enquire.

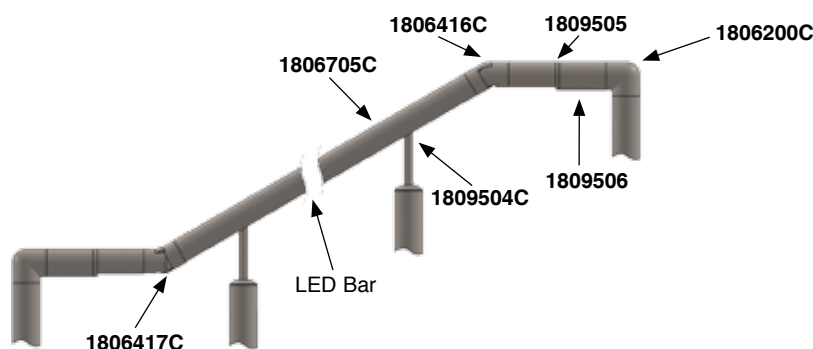


LED bar is a sealed one piece unit rated to IP67, with 54 LEDs totalling 12.24W. With a brightness of 3000K. They are supplied with a 200mm cable with waterproof connectors.

MOUNTING GUIDES

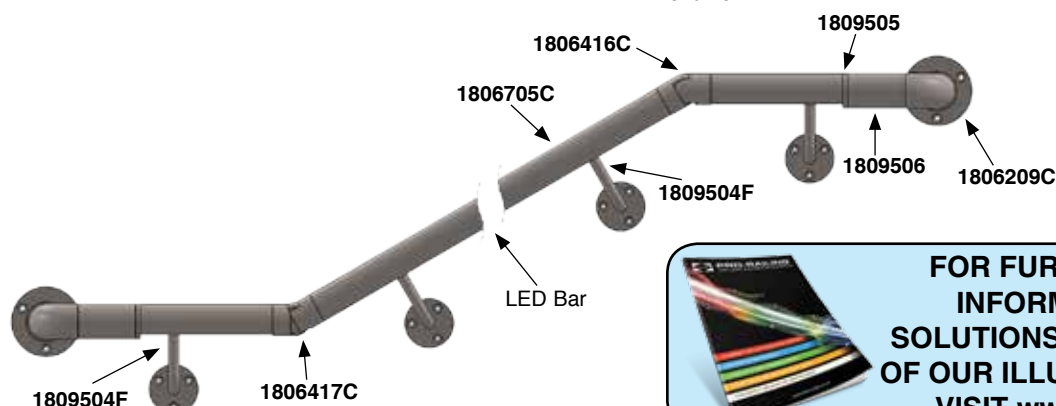
HANDRAIL WITH RETURN TO FLOOR ENDS

Front view



HANDRAIL WITH RETURN TO WALL ENDS FOR CABLE

Front view



FOR FURTHER TECHNICAL
INFORMATION & WIRING
SOLUTIONS, DOWNLOAD A COPY
OF OUR ILLUMIRAIL® TECHNICALS,
VISIT www.fhbrundle.co.uk

ILLUMIRAIL® BAR SYSTEM



FITTINGS

SPLIT TUBE

1.5mm wall thickness



Ø mm	Length m	Code
42.4	3	18067053C
42.4	6	1806705C

CABLE TIDY

Glue fit



Ø mm	Length mm	Depth mm	Code
42.4	300	20	1809CTC

Thickness 1.2mm.

WALL BRACKET

For split tube clamping



Clip Length mm	Code
60	1809504F

With cable hole.

HANDRAIL SADDLE, ADJUSTABLE SPIGOT

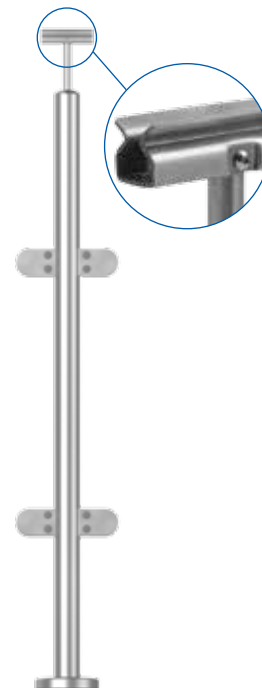
For split tube clamping



Ø mm	Clip Length mm	Code
42.4	85	1809504C

With cable hole.

For ease of application use pre-assembled posts, see page 567. Then just add the saddle code: **1809504C**.



25 - 55° DOWNWARDS ADJUSTABLE CONNECTOR



Ø mm	Code
42.4	1806416C

25 - 55° UPWARDS ADJUSTABLE CONNECTOR



Ø mm	Code
42.4	1806417C

SPLIT TUBE TO PLAIN TUBE CONNECTOR



Ø mm	Code
42.4	1809505

IN-LINE CONNECTOR



Ø mm	Code
42.4	1806412C

90° ELBOW RADIUS CORNER



Ø mm	Code
42.4	1806200C

SCROLL END



Ø mm	Code
42.4	1806221C

END CAP



Ø mm	Code
42.4	1806413C

TUBE SECTION



Ø mm	Length mm	Code
42.4	55	1809508
42.4	70	1809506

WALL CONNECTOR



Ø mm	Code
42.4	1809209C

With cable hole.

FOR OUR FULL RANGE OF SPLIT TUBE FITTINGS, SEE PAGE 566.

PRO-RAILING®



ILLUMIRAIL® BAR SYSTEM

FIXED COLOURS & RGB COLOUR CHANGING



Colour	425mm Length Code	850mm Length Code
White (3000K)	18095015	1809501
Blue	18095015B	1809501B
Green	18095015G	1809501G
Red	18095015R	1809501R
Yellow	18095015Y	1809501Y

Supplied with 2 gel crimps.

Colour	425mm Length Code	850mm Length Code
RGB	18095015RGB	1809501RGB

Supplied with 4 gel crimps.

CABLES

Description	Fixed Colour	RGB	Length	Code
2 pin M-F, over-moulded IP67 cable. 5 amp max. DC connection cable for LED bar	✓		5m	180919
2 pin M-F, over-moulded IP67 cable. 5 amp max. DC extension cable	✓		10m	180919B
2 pin small sealing cap M. Makes end of run of LED bar watertight. For DC power cables	✓			180926
4 pin M-F over-moulded IP67 cable. 5 amp max. DC connection cable		✓	5m	180919A
4 pin M-F, over-moulded IP67 cable. 5 amp max. DC connection cable		✓	10m	180919C
4 pin M-F, over-moulded IP67 cable. 5 amp max. DC connection cable		✓	20m	180919E
3 pin sealing cap M. Makes end of run of cables watertight. For signal cables	✓	✓		180925B
4 pin sealing cap M. Makes end of run of cables watertight. For RGB power cables		✓		180925A
STP signal cable, bare ends. Connects between PIR enclosures and ColourTouch controller		✓	Per metre	180927
STP signal cable, bare ends to M. Connects in-line relays and PWM's to PIR or ColourTouch enclosure	✓	✓	10m	180927A
STP signal connection cable M to M. Connects between PWMs and in-line relays	✓	✓	10m	180927B
STP signal connection patch cable M to M. Connects between PWMs and in-line relays	✓	✓	300mm	180927C
STP signal extension cable M to F. Extends cables	✓	✓	10m	180927D

CONTROLS

Description	Fixed Colour	RGB	Code
ColourTouch control enclosure with colour changing system and built in timer		✓	1809507
In-line PWM RGB driver module. Male 2 pole female 4 pole, one per transformer		✓	180929A
Power supply for ColourTouch control		✓	1809507PS
PIR enclosure, one or many per installation	✓	✓	1809PIR
In-line relay module, one per transformer	✓		1809IR

TRANSFORMER



SPECIFICATION:

- 100W
- 230V AC to 24V DC
- CE approved
- IP67, supplied with waterproof connector on the DC output
- PFC - 98%
- Efficiency >88%
- Supplied with one end cap

Description	Code
LED Driver - 24V DC/100W - IP67 Rated	1809006

SHORT CLIP

For securing LED bar



Code
1809502

Two clips required per LED.

CRIMPING PLIERS

For gel crimps



Code
180959902

HIGH STRENGTH RETAINER

For use with tube fittings



ml	Code
50	1899007638

HIGH STRENGTH RETAINER

For use on assembled posts



ml	Code
10	189900763810

PRO-RAILING®

ILLUMIRAIL® POD SYSTEM



PODS & LIGHTING INFORMATION

POD INSTALLATION

Exploded View



The ILLUMIRAIL POD system is designed using top quality CREE LEDs. The single lens PODs are rated at 1.2W. They are directly connected to the bus power cable code: **180920** using gel crimps. PODs are fitted with a diode on the negative side of their circuit to prevent the POD LEDs from blowing if they are wired incorrectly.

POD SYSTEM AVAILABLE TO SUIT:

- 2.0 - 3.2mm wall thickness for Ø 42.4 and 48.3mm tube

There is a spring assembly incorporated into the lens body so it securely snaps into place and the lens can be removed if necessary. There is also the option to drill two holes in the flange of the lens which allows permanent fixing using a 2mm stainless steel rivet into pre-drilled holes in the tube.



We recommend the holes for the PODs are machined out in a workshop or they can be drilled on site using a 24mm step drill.

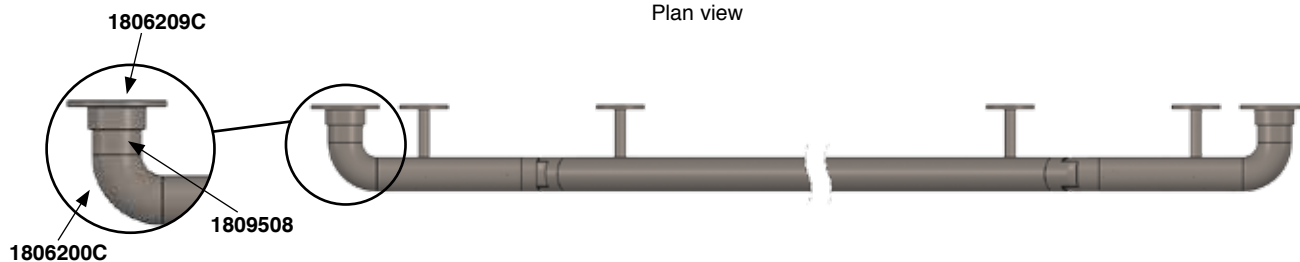
NB: Note polarity and ensure to connect the wires accordingly.

THE POD SYSTEM WORKS WITH ALL OF OUR GALVANISED, MILD STEEL & PRO-RAILING FITTINGS, SEE PAGES 584 - 588 FOR OUR RECOMMENDED GRADE 316 FITTINGS.

MOUNTING GUIDES

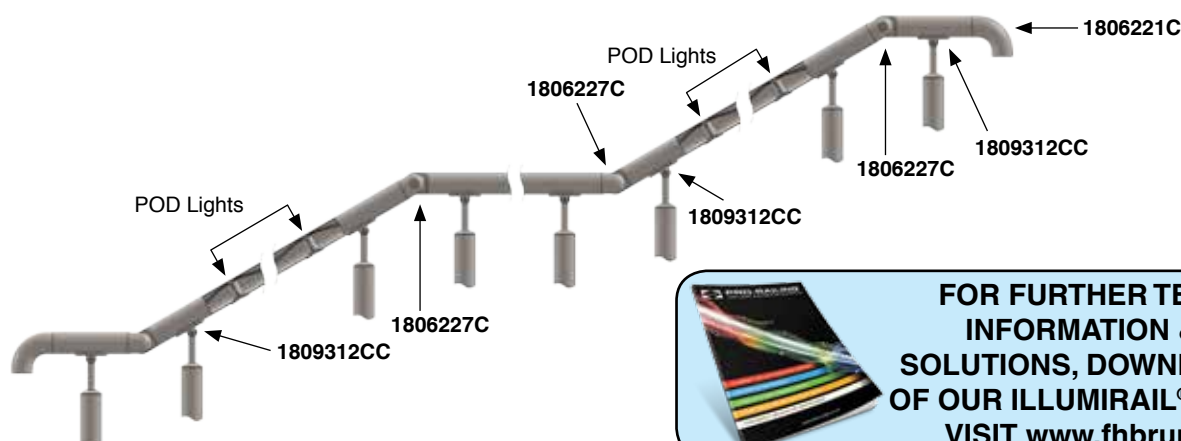
HANDRAIL WITH RETURN TO WALL ENDS FOR CABLE

Plan view



HANDRAIL WITH LANDING AND SCROLL ENDS

Cable runs through fixed bracket on landing
Front view



FOR FURTHER TECHNICAL INFORMATION & WIRING SOLUTIONS, DOWNLOAD A COPY OF OUR ILLUMIRAIL® TECHNICALS, VISIT www.fhbrundle.co.uk

TUBE



Ø mm	Length m	Thickness mm	Code
42.4	3	2.0	1806704C
42.4	6	2.0	1806700C

WALL BRACKET



Ø mm	Code
42.4	1809305FC

With cable hole.

HANDRAIL SADDLE



Ø mm	Code
42.4	1809310CC

With cable hole. To be used with double clip.

HANDRAIL SADDLE

Adjustable Spigot



Ø mm	Code
42.4	1809312CC

With cable hole.

For ease of application use pre-assembled posts, see page 567. Then just add the saddle code: **1809310CC** or **1809312CC**.



SMOOTH ADJUSTABLE ELBOW



Ø mm	Code
42.4	1806227C

IN-LINE CONNECTOR



Ø mm	Code
42.4	1806206C

90° ELBOW RADIUS CORNER



Ø mm	Code
42.4	1806200C

SCROLL END



Ø mm	Code
42.4	1806221C

FLAT TOP END CAP



Ø mm	Code
42.4	1806214C

TUBE SECTION



Ø mm	Length mm	Code
42.4	55	1809508

OTHER END CAP & ELBOW OPTIONS AVAILABLE, SEE PAGES 581 & 586.

ILLUMIRAIL® POD SYSTEM



WHITE LEDS

LED PODS



SPECIFICATIONS:

- CREE LED
- Spring assembly
- Includes driver
- Required DC supply
- Ø 24mm holes required in tube to fit POD lights
- Single lens POD, supplied with 2 gel crimps

Colour	To Suit Wall Thickness mm	Code
White (2700 - 3000K)	2.0 - 3.2	1809550

TRANSFORMER



SPECIFICATION:

- 70W
- 230V AC to 12V DC
- CE approved
- IP67, supplied with waterproof connector on the DC output
- PFC - 98%
- Efficiency >88%
- Supplied with one end cap

Description	Code
LED Driver - 12V DC/100W - IP67 Rated	1809509

CABLES

Description	Length m	Code
2 pin M-F, over-moulded IP67 cable. 5 amp max. DC extension cable	10m	180919B
2 pin M, over-moulded IP67 cable. 5 amp max. DC to PODs, no outer sheath	10m	180920
3 pin sealing cap M. Makes end of run of cables watertight. For signal cables		180925B
STP signal cable, bare ends. Connects between PIR enclosures and ColourTouch controller	Per metre	180927
STP signal cable, bare ends to M. Connects in-line relays and PWM's to PIR or ColourTouch enclosure	10m	180927A
STP signal connection cable M to M. Connects between PWMs and in-line relays	10m	180927B
STP signal connection patch cable M to M. Connects between PWMs and in-line relays	300mm	180927C
STP signal extension cable M to F. Extends cables	10m	180927D

CONTROLS

Description	Code
PIR with enclosure, one or many per installation, wired to work directly from 230V AC supply	1809PIR
In-line relay module, one per transformer	1809IR

TOOLS

CRIMPING PLIERS

For gel crimps



STEP DRILL



HIGH STRENGTH RETAINER

For use with tube fittings



Code
180959902

Drill Size Ø mm	Code
16 - 30	180959901

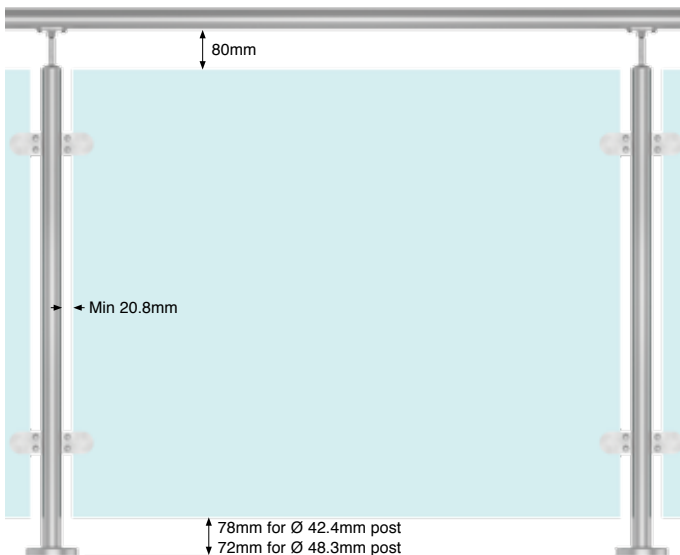
ml	Code
10	189900763810
50	1899007638

STANDARD GLASS PANELS FOR PRE-ASSEMBLED GLASS CLAMP POSTS



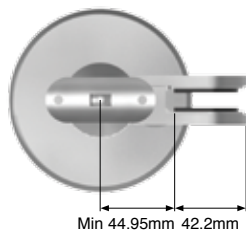
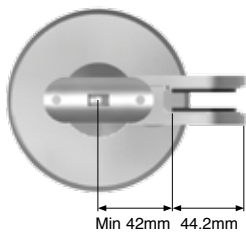
- Toughened monolithic clear float glass
- For use with pre-assembled posts with glass clamps
- Polished edges
- Dubbed corners
- See online for full technical details

ROUND POSTS

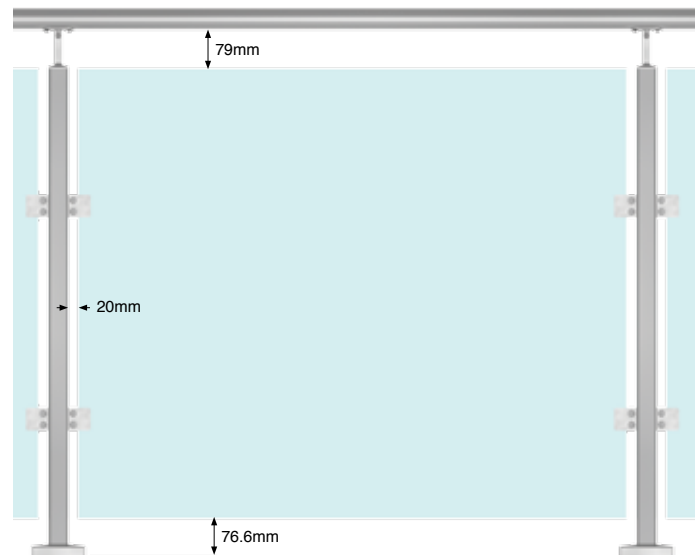


Ø 42.4mm POSTS

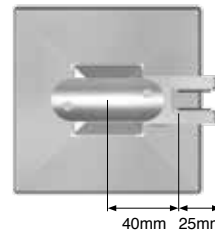
Ø 48.3mm POSTS



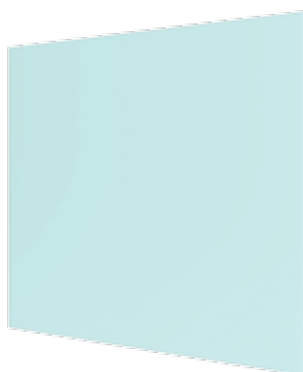
SQUARE POSTS



40 x 40mm POSTS



**PRE-ASSEMBLED
ROUND POSTS CAN
BE FOUND ON
PAGES 569 - 571.
PRE-ASSEMBLED
SQUARE POSTS ARE
ON PAGE 574.**



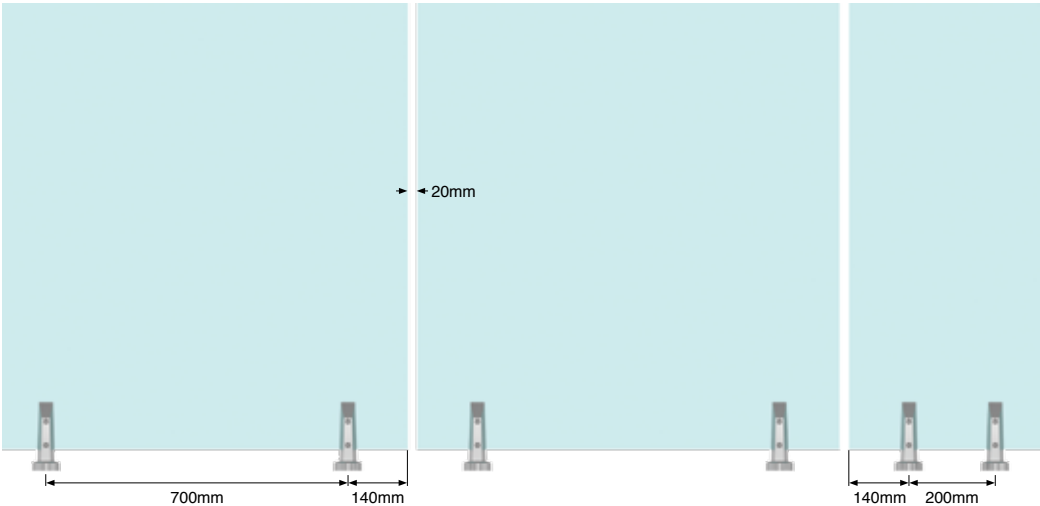
Thickness mm	Height mm	Width mm	Minimum* Post Centres For			Code
			Ø 42.4mm Post	Ø 48.3mm Post	□ 40mm Post	
10	900	1100	1184	1190	1180	1855101100900
10	900	1000	1084	1090	1080	1855101000900
10	900	900	984	990	980	185510900900
10	900	800	884	890	880	185510800900
10	900	700	784	790	780	185510700900
10	900	600	684	690	680	185510600900
10	900	500	584	590	580	185510500900
10	900	400	484	490	480	185510400900
10	900	300	384	390	380	185510300900
10	900	200	284	290	280	185510200900
10	900	100	184	190	180	185510100900

*Minimum only applies to round posts, square posts are fixed centres.

STANDARD GLASS PANELS FOR SPIGOTS



- Toughened monolithic clear float glass
 - For use with spigots **1822001**, **1822007** & **1822008**
 - Polished edges
- Dubbed corners
 - Not to be used where the fall is greater than 600mm
 - See online for full technical details



Use Bond It glass cleaner with non smear formulation for all types of glass, chrome, laminates & plastics. See page 738.





Thickness mm	Height mm	Width mm	Code
12	1055	480	1855124801055
12	1055	980	1855129801055

EXTRA HEIGHT

The use of different spigots and top rails will add to the height of the finished installation and need to be considered when purchasing glass. Below you will find details on the extra heights.

TOP RAIL

Please note when using a gasket this will add a few millimetres to the overall height.

PRO-RAILING®

SQUARE SLIM
See page 560

SQUARE MINI
See page 562

ROUND MINI
See page 563


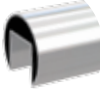

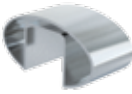




RECTANGULAR
See page 564

OVAL
See page 565

ROUND
See page 566

MIRROR FINISH ROUND
See page 599

ALUMINIUM SQUARE
See page 561



SPIGOTS

DUPLEX ROUND
See page 536

ROUND
See page 536

SQUARE
See page 536

TILT-LOC™ - BOLT DOWN
See page 537

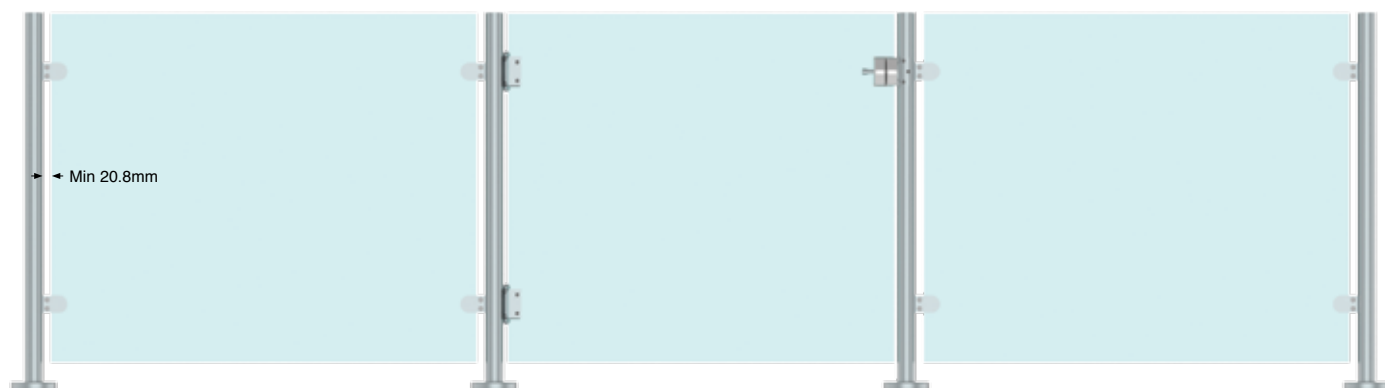
SPIG-LITE PRO
See page 538





STANDARD PRE-DRILLED GLASS PANELS FOR PRE-ASSEMBLED GLASS CLAMP POSTS

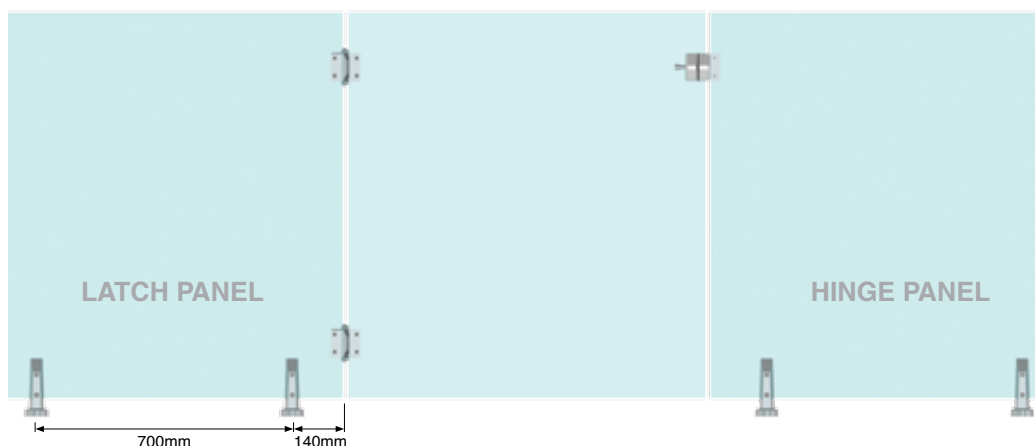
- Toughened monolithic clear float glass
- For use with pre-assembled Ø 42.4mm posts with glass clamps
- For use with latch **1806518C** & hinges **1806516C**
- Polished edges
- Dubbed corners
- See online for full technical details



Panel	Thickness mm	Height mm	Width mm	Code
Gate	10	900	1000	185510GSP01

STANDARD PRE-DRILLED GLASS PANELS FOR SPIGOTS

- Toughened monolithic clear float glass
- For use with spigots **1822001**, **1822007** & **1822008**
- For use with latch **1806517** & hinges **1806515**
- Polished edges
- Dubbed corners
- See online for full technical details



Use Bond It glass cleaner with non smear formulation for all types of glass, chrome, laminates & plastics. See page 738.



Panel	Thickness mm	Height mm	Width mm	Code
Latch	12	1055	980	1855129801055
Gate	10	1055	980	185510GSS01
Hinge	12	1055	980	185512GPP01

Latch panel has no holes, latch screws simply compress the plate onto the glass.

PRO-GLASS STANDARD PANELS

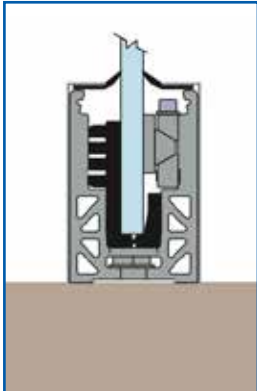
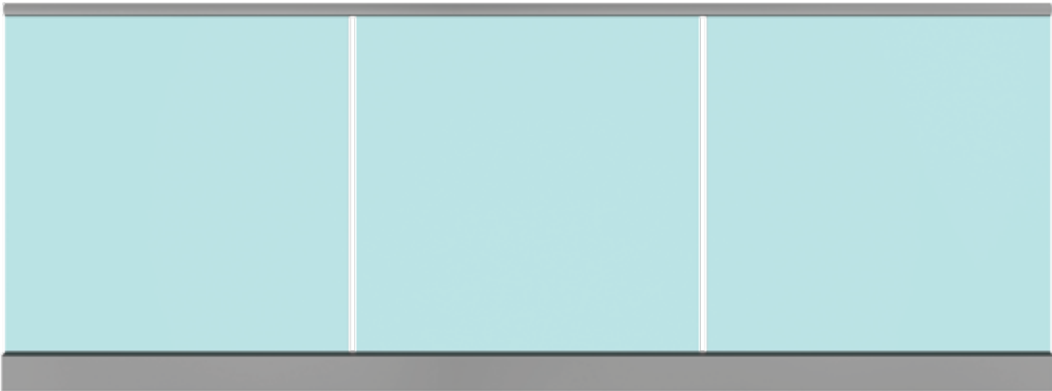


STANDARD GLASS PANELS FOR BALUSTRADE SYSTEMS



- 15 & 19mm thick toughened monolithic clear float glass
- 17.5 & 21.5mm thick toughened & laminated clear float glass
- For use with PanelGrip®, Posi-Glaze, Wedge-Loc™ - Slim, Origin R, OnLevel & Mega-Grip 3kN
- For base or side fix channels
- Polished on edges, base unpolished
- Dubbed corners
- Handrail should be used with 15 & 19mm glass
- See online for full technical details

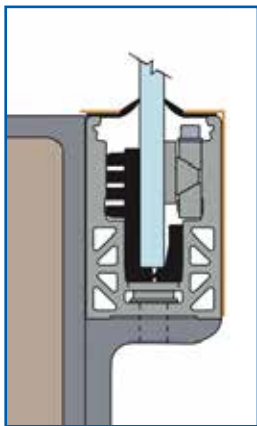
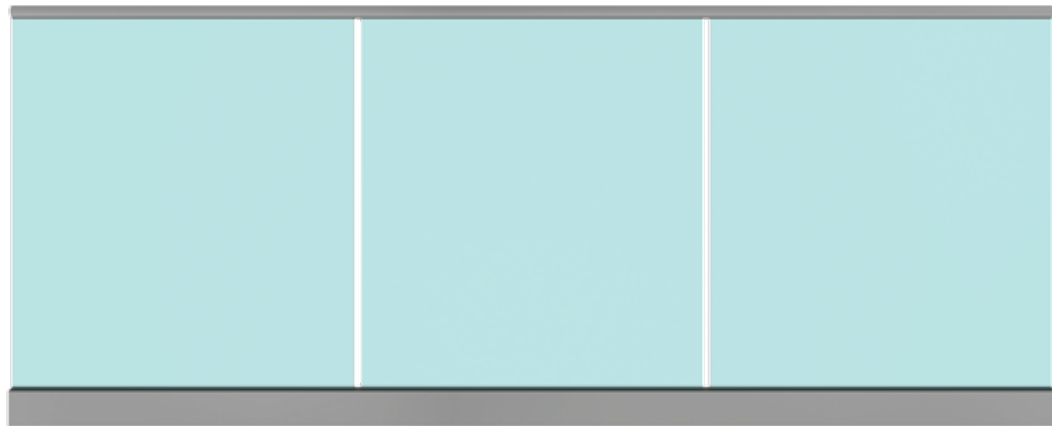
BASE FIX CHANNELS



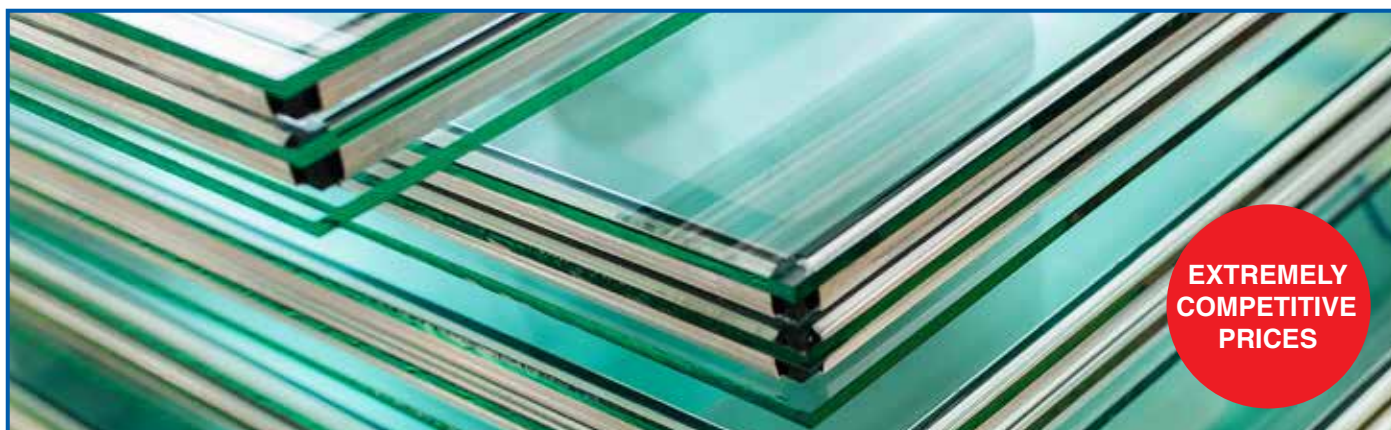
Thickness mm	Glass Type	Height mm	Width mm	For Use With	Code
15.0	Toughened monolithic	1075	1000	Base fixed channels set onto finished floor line	18551510001075
17.5	Toughened & laminated	1075	1000		185617510001075
19.0	Toughened monolithic	1075	1000		18551910001075
21.5	Toughened & laminated	1075	1000		185621510001075

SIDE FIX CHANNELS

PRO-RAILING®



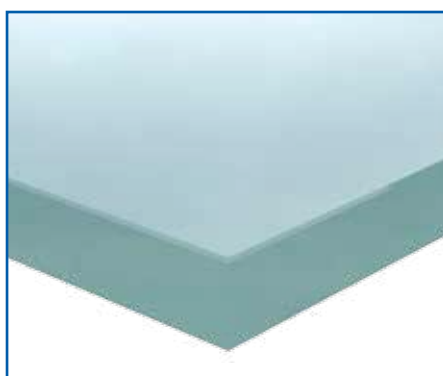
Thickness mm	Glass Type	Height mm	Width mm	For Use With	Code
15.0	Toughened monolithic	1175	1000	Side fixed channels set 100mm below finished floor line	18551510001175
17.5	Toughened & laminated	1175	1000		185617510001175
19.0	Toughened monolithic	1175	1000		18551910001175
21.5	Toughened & laminated	1175	1000		185621510001175



Our per square metre glass panels are polished on all edges and come with docked corners for safety and aesthetic reasons. Glass can be supplied shaped and drilled at a nominal extra cost. Different coloured glass, etchings and self-clean coatings also available.

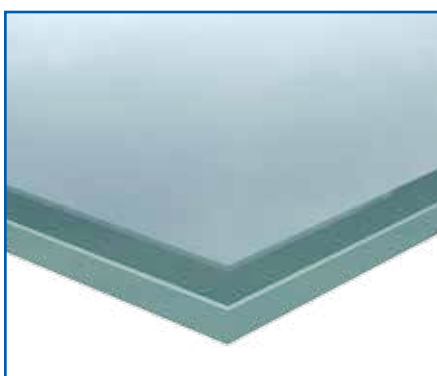
The current meterage rates can be checked online using the following codes and we can then prepare a detailed quote to meet your exact requirements.

TOUGHENED GLASS



Thickness mm	Code
8	185508M
10	185510M
12	185512M
15	185515M
19	185519M
25	185525M

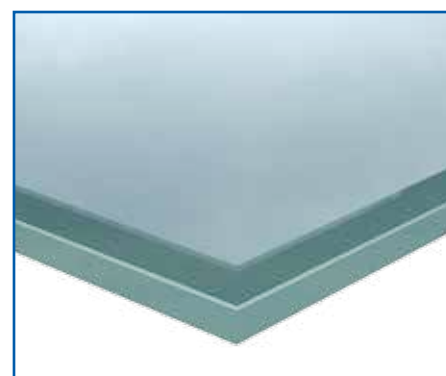
TOUGHENED LAMINATED GLASS



Thickness mm	Code
17.5	1856175M
21.5	1856215M
25.5	1856255M

SENTRYGLAS®

Ionoplast interlayer toughened glass



Thickness mm	Code
12.89	18571289M
16.89	18571689M
20.89	18572089M
25.50	1857255M

Up to 5 times stronger and 100 times stiffer than conventional interlayers.

Consult with local building authorities and structural engineers to ensure correct glass specifications and fixings are used to achieve the required loadings. Where possible we have tested our systems and individual test reports are available online.

IF YOU REQUIRE HOLES IN YOUR GLASS, PLEASE VISIT OUR WEBSITE FOR UP TO DATE PRICES.

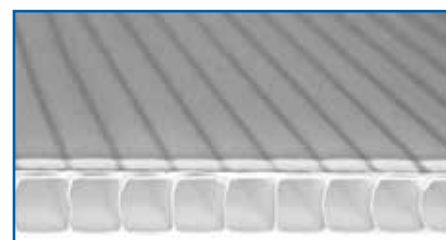
FOR FURTHER INFORMATION ON THE CLASSIFICATION OF BUILDING OCCUPANCY & GLASS LOADINGS, VISIT www.fhbrundle.co.uk

PRO-RAILING®

TEMPLATING SHEETS

We can provide suitable templating material that can be cut to suit any special shapes on site. This is 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 application.

Height mm	Width mm	Thickness mm	Code
2440	1220	4	185900201



OTHER THAN DWELLING

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-Railing 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 handrail height 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:

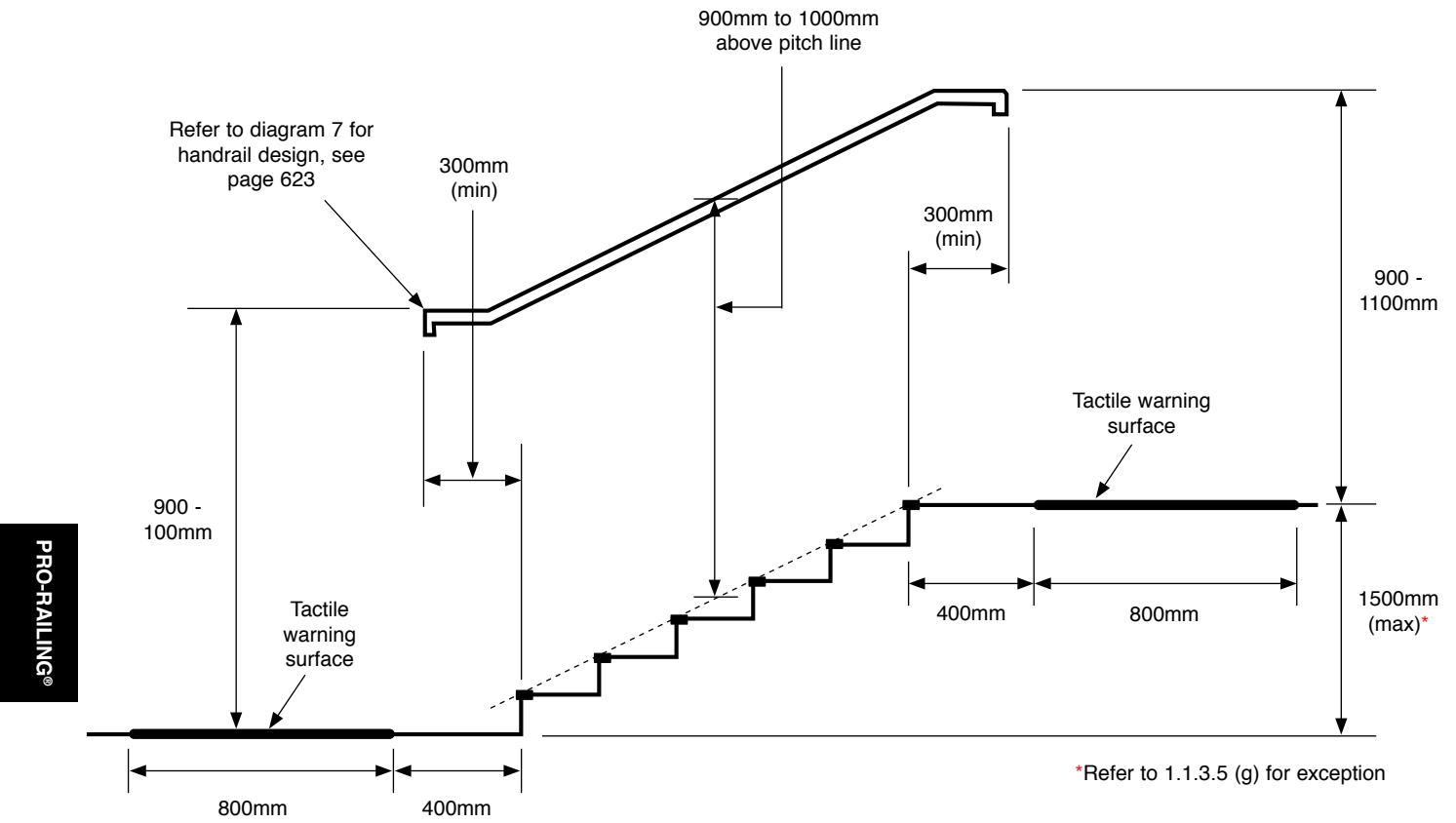
LIGHT DUTY – Access limited to one person:
0.36 kN/m

GENERAL DUTY – Regular pedestrian traffic:
0.36kN/m

HEAVY DUTY – High density traffic (escape route):
0.74kN/m

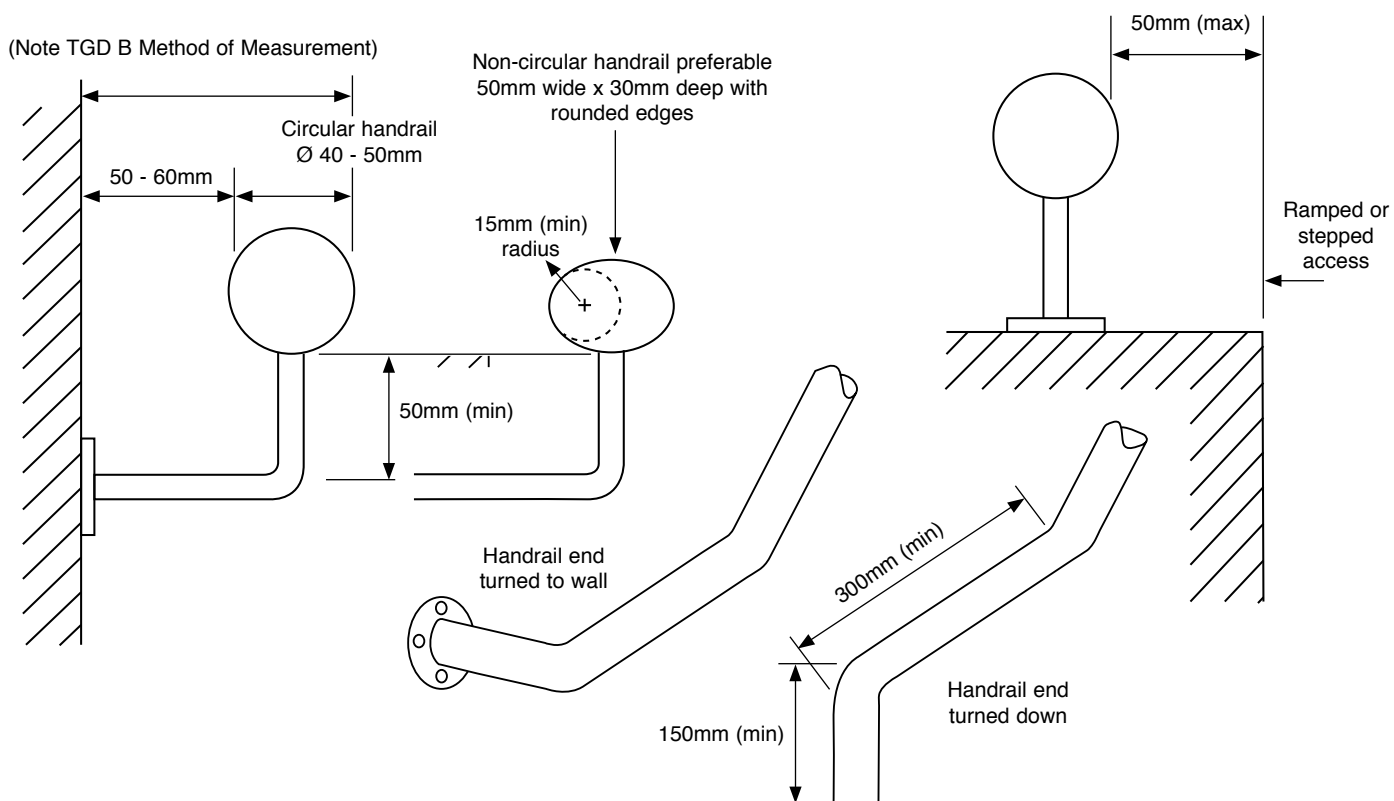
Areas subject to crowding **OVER 3m WIDE:**
3.00kN/mm

DIAGRAM 6 EXTERNAL STEPS & STAIRS - KEY DIMENSIONS



EXTRACT FROM BUILDING REGULATIONS PART K
& PART M CAN BE FOUND ON OUR WEBSITE.

DIAGRAM 7 HANDRAIL DESIGN



EXTRACT FROM BUILDING REGULATIONS PART K & 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 50 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.

GUIDELINES FOR THE USE OF GLASS



IN PROTECTIVE BARRIERS

F.H.Brundle has found the following extracts from leading authorities in the field of glass, which you may find useful for UK projects. We cannot be held liable for the compliance of our components to local or national building regulations. In some instances we have tested our handrail systems to certain criteria. These reports can be found online. Regulations are always changing and it is highly recommended that you consult with local structural engineers, building inspectors and local regulations in the country of the installation. It remains the responsibility of the customer to ensure the current regulations are met.

Tables based on page 7, section 7, Architectural Glazing Systems, of the Glass Loading Data Sheet 7.2 publication November 2014, with glass loading guidelines as issued by the Glass and Glazing Federation.

TABLE A1 - Classification of building occupancy types by barrier loadings.

Class	Occupancy
1	Domestic and Residential – single family dwellings Office and Work Areas – light pedestrian traffic routes
2	Domestic and Residential – multi-occupancy, balconies and edges of roofs Office and Work Areas – areas not susceptible to over crowding Areas without obstacles for moving people and not susceptible to over crowding – stairs, landing, corridors, and balconies
3	Areas where people might congregate – areas having fixed seating within 530mm of the barrier Areas with tables or fixed seating – restaurants and bars Areas susceptible to over crowding – footways or footpaths less than 3 metres wide, adjacent to sunken areas Retail areas – all retail areas including banks, building societies or betting shops
4	Areas susceptible to over crowding – theatres, cinemas, shopping malls, assembly areas. Footways or pavements greater than 3 metres wide adjacent to sunken areas

TABLE A2 - Design loads for protective barriers.

Building Occupancy Class	Design Loads		
	Line load in kN/m run applied 1100mm above finished floor level	UDL (Uniformly Distributed Load) in kN/m2 applied to the whole of the infill panel below the line load height	Concentrated load in kN applied to any part of the infill panel below the line load height
1	0.36	0.50	0.25
2	0.74	1.00	0.50
3	1.50	1.50	1.50
4	3.00	1.50	1.50

TABLE A7 - Thickness of glass required for single glazed free standing glass protective barriers.

Building Occupancy Class	Thickness For Glass Type mm				
	Thermally toughened safety glass	Toughened/laminated safety glass using PVB interlayer		Toughened/laminated safety glass using Ionoplast interlayer	
	With handrail	With handrail	Without handrail	With handrail	Without handrail
1	12	15.5	17.5	13.5	17.5
2	15	19.5	21.5	15.5	19.5
3	19	23.5	31.5	19.5	25.5
4	25	28.5	39.5	25.5	31.5

A FULL 'GLASS LOADING DATA SHEET 7.2'
CAN BE FOUND ON OUR WEBSITE
www.fhbrundle.co.uk



TABLE 3 - Glass thickness for free-standing protective barriers - Pilkington Toughened Safety Glass. Based on page 7, section Design, of the Glass and Mechanical Strength Technical Bulletin publication January 2001, with glass loading guidelines as issued by Pilkingtons Glass.

Design Level Horizontal UDL (Line Load) (kN/m)	Pilkington Toughened Safety Glass Thickness (mm)
0.36	12
0.74	15
1.50	19
3.00	25

INFILL PANELS FOR BARRIERS

TABLE 4 - Maximum spans for bolted Pilkington Toughened Safety Glass Infill panels for barriers (Applicable only for pane widths greater than 700mm). Based on page 8, section Design, of the Glass and Mechanical Strength Technical Bulletin publication January 2001, with glass loading guidelines as issued by Pilkingtons Glass.

Infill Loading From BS 6180		Span Limit For Bolted Pilkington Toughened Glass (mm)			
UDL (kN/m ²)	Point Load (kN)	6mm*	8mm*	10mm	12mm
0.5	0.25	1400	1750	2100	2400
1.0	0.50	900	1450	1750	2050
1.5	1.50	n/a	n/a	1200	1600

*6 and 8mm Pilkington Toughened Safety Glass will not be suitable if the free path perpendicular to the barrier is larger than 1.5m, since it will not give containment (i.e. remain intact) at Class A of BS 6206: 1981.

THE FULL 'PILKINGTON GLASS AND MECHANICAL STRENGTH TECHNICAL BULLETIN' CAN BE FOUND ON OUR WEBSITE
www.fhbrundle.co.uk



GUIDANCE ON POSITION OF HOLES IN GLASS

FOR THE QUALITY OF THERMALLY TOUGHENED SODA LIME SILICATE SAFETY GLASS FOR BUILDING

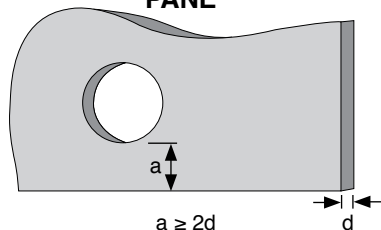
Information based on page 4 - 5, section 4, Products, Glazing Techniques and Maintenance, of the GGF Standard Data Sheet 4.4 publication October 2004, with guidelines as issued by the Glass and Glazing Federation.

6.3.3 LIMITATIONS ON POSITION OF HOLES - In general, the limitations on hole positions relative to the edges of the glass pane, the corners of the glass pane and to each other depends on:

- The nominal glass thickness (**d**)
- The dimensions of the pane (**B, H**)
- The diameter of hole (**ø**)
- The shape of the pane
- The number of holes

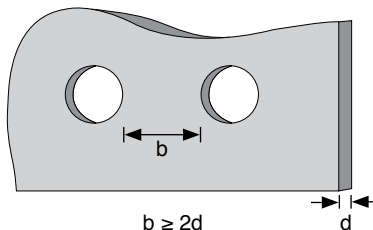
The recommendations given below are those, which are normally available and are limited to panes with a maximum of 4 holes.

FIGURE 7: RELATIONSHIP BETWEEN HOLE AND EDGE OF PANE



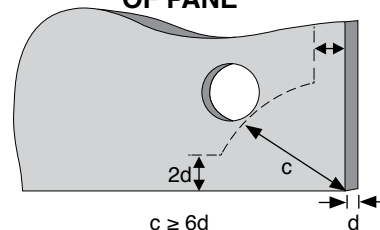
1) The distance, a, of the edge of a hole to the glass edge should be not less than 2d.

FIGURE 8: RELATIONSHIP BETWEEN TWO HOLES



2) The distance, b, between the edges of two holes should be not less than 2d.

FIGURE 9: RELATIONSHIP BETWEEN HOLE AND CORNER OF PANE



3) The distance, c, of the edge of a hole to the corner of the glass should not be less than 6d.

Note: If one of the distances from the edge of the hole to the edge of the glass is less than 35mm, it can be necessary to position the hole asymmetrically with respect to the corner. The manufacturers should be consulted.

A FULL 'GGF STANDARD DATA SHEET 4.4' CAN BE FOUND ON OUR WEBSITE www.fhbrundle.co.uk

