



products & solutions

Balustrades & Handrails





company



Company Info

Savekers Ltd



Our Solutions

With an enviable pedigree and heritage, together with more than 100 years as an established specialist in quality manufacturing, Savekers Ltd offers a level of production and service unrivalled in our field.

Building on the strengths and resource of the founding company, T Saveker Ltd, and through acquisitions and product diversification, we aim to provide an ever-evolving level of customer support through exceptional customer service and skilled bespoke and standard product manufacture.

All aspects of the Company and the skills within, join to collectively meet customer requirements across a range of disciplines and market sectors. These include shopfittings, POS, internet & IT solutions, metalwork, joinery, commercial & business support.

Metalwork Manufacture

Whether the requirement is for standard or bespoke products, for various applications, we are positioned to provide unrivalled products and solutions across a diverse range of architectural metalwork materials and finishes.

Alongside our specialist CAD technical design team, is our comprehensive 45,000 square foot production facility, which spans water jet cutting, CNC machining, NC bending, flat bed laser cutting, tube profile laser cutting, welding, polishing, general fabrication, anodising and chrome plating.

Our ever-growing portfolio of architectural metalwork products, recognised as one of the most comprehensive in the UK, provides solutions for local authorities, the retail sector, exhibitions, financial institutions, leisure & entertainment, construction – to name but a few.



Joinery Manufacture

As a specialist in the design and manufacture of high quality solutions, we are able to produce functional designs across a range of uses, applications and sectors.

Our team of skilled craftsmen are experienced in working with all types of wood - solid wood, real wood, veneer, laminate, and to incorporate glass, metalwork, or solid-surfacing. Furthermore, we operate a strict process of traceability to ensure that we only purchase timber from sustainable forests by sourcing material from registered environmentally friendly sources. Whatever the project nature or size, we will work from existing designs or through working closely with customers, to produce new designs utilising our established in-house CAD designers and facilities. Solutions may include timber reception desks, bars, counters, cabinets, storage units, POS and retail display shelving and furniture.

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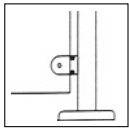


products



Contents

Balustrades & Handrails



Planning & Understanding Balustrading

An introduction to the key balustrade components, materials and finishes, general considerations and terms to help you through the ordering and installation process. We also provide you with step-by-step guide to the process involved from beginning to end.



System Balustrade

Complete balustrading systems, covering all products required to create your specific installation including:

- Floor and side mounted systems
- Infill options
- Handrailing
- System 7
- 800 Ball Socket System



Handrailing

Various wooden, polished brass, mirror polished or satin polished chrome or stainless steel wall mounted handrails can be created with standard and bespoke brackets and fittings. As well as the 310 System which boasts concealed fixings for a neat and clean appearance.



Disabled Access Products

Designed with the help of the Disability Access Charter to meet the needs of those with disabilities. Complies with the DDA. The range incorporates grab rails, handrails and fittings.



Regulations, Design & Assembly Guidance

An overview of the regulations regarding balustrading and a summary of the intensive testing our balustrade range has undergone.



Balustrades & Handrails

A comprehensive range of products for floor fixing and side mounted balustrading, further enhanced by a range of co-ordinating handrails and accessories. Items supplied on a mix and match basis and in collaboration with other products and finishes.

Related Product Ranges

- Pedestrian Guidance
- Counters, Cabinets & Fittings
- Protection Screens
- Disability Range

Many of the products illustrated can be manufactured to customers' specific size and finish requirements. As manufacturers, we are happy to quote against specific requirements on receipt of sketches or drawings.

An on-line catalogue of standard products can be found on our website.

Please also refer to our standard Terms & Conditions. We reserve the right to amend designs and products without prior notification.

Please refer to our Cleaning & Maintenance Guidance sheet.

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products



Planning a Balustrade

Balustrades & Handrails

Introduction to Balustrading

We have designed a range of standard components which enable customers to create a floor or side mounting balustrade system. Whether you require a 'kit of parts' or a more bespoke solution – we can work with you to ensure the correct products are selected. We also offer a range of DDA compliant rails and supports, complimentary handrailing systems as well as many other ranges. All products are manufactured in our Birmingham based production facilities.

This brochure gives a basic level of guidance to help customers understand balustrade and handrail terminology, the various products, how to use them, how to maintain them, the materials and finishes. Our Sales Team are happy to discuss your requirements in more detail, please call on 0121 331 1903.



Location

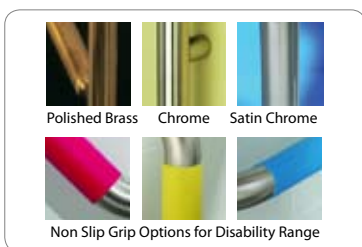
Consideration must be given to the location where the balustrade will be used. This should include:

- Indoor or outdoor use
- Conditions of the atmosphere such as swimming pool area etc
- Public or private use
- Balustrade use such as balcony or stairs and what level of traffic it will be exposed to
- Building type and any relevant standards for compliance
- Your experience/capability for design and installation
- Is there a requirement to comply with the Disability Discrimination Act, Section M of the Building Regs

For further information refer to page 15

Selecting Materials & Finishes

In addition to appreciation of location when designing and planning your balustrade and handrail, this information is important when deciding on the appropriate material and finish. The location in which the balustrade will be sited will also affect your choice of material and finish. Guidance can be found on page 17.



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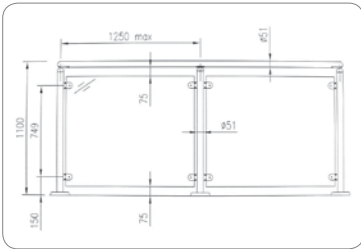


products



Planning a Balustrade

Balustrades & Handrails



Layout & Planning

Where the stairs or ramp relate to the building is important. Consideration must be given as to whether you are designing for a simple flight of stairs or if there is a landing area and so on. Customers may need to create a drawing for our estimating team to quote for. The surface that you will be fixing to and specific requirements are now important. More information and assistance can be found on pages 15 and 16. Please note that you have a duty to advise us of all relevant information when requesting a quote. Although we are not structural engineers we can offer the following services:

- Detailed CAD drawings for your approval (POA - dependant on complexity of your installation)
- Basic CAD drawings for glass ordering (POA - dependant on complexity of your installation)
- Site survey - measuring service - NOT a structural survey (POA - dependant on complexity and location)
- Installation - we can arrange a qualified contractor to install your balustrade as part of the package



Post Option

Once you understand the area requiring the balustrade you will need to plan the appropriate uprights taking into account the floor and/or stair material. Our systems can be either floor fixed or side mounted to the staircase.



Handrails & Fittings

The next stage is to consider the type of handrail and how it will be fixed to the upright posts. You may also need to consider whether wall fixed handrails are required on the opposing wall.



Infills & Glass Ordering

The general appearance and safety of the balustrade when in use can be affected by the infill panels between posts. The most popular option is to use toughened glass held with 'panel clips' although perforated panels and tubular bars can also be used. Further information can be found on page 9.



Maintenance & Cleaning

Once installed, balustrades and handrails must have periodical visual inspections and be cleaned in a suitable manner for the material. Further information is provided on page 17.

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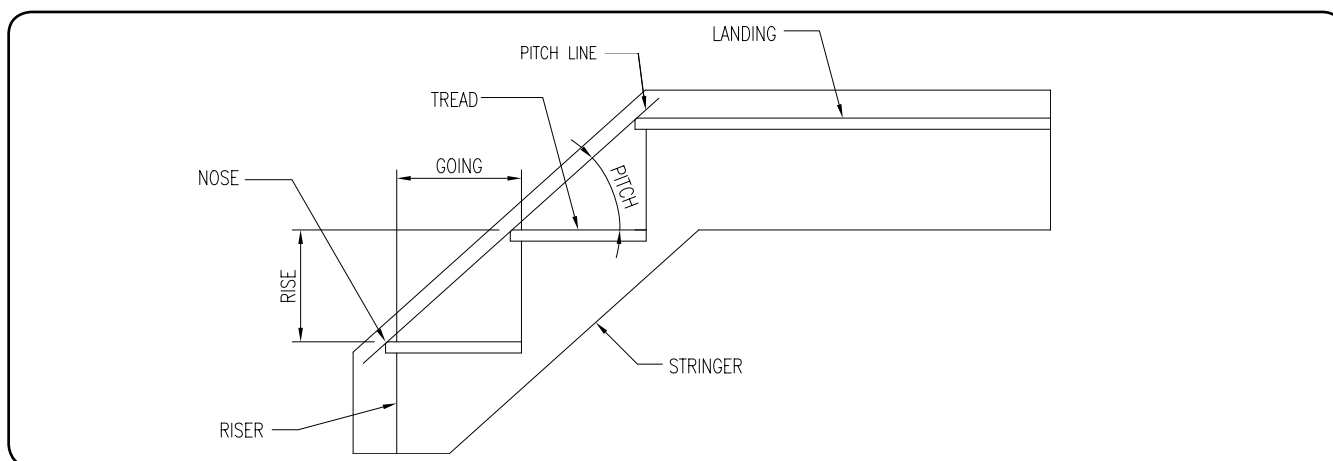
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Understanding Balustrading

Balustrades & Handrails



Balustrading Terms

BS 6180

The British Standards document which covers the design requirements of a balustrade for loading and performance in all locations.

Building Regulations Section K

The British Standards document covering the loading requirements for balustrade and railings.

Balustrading/Balustrade

The collective name for the complete assembly of handrails, posts and infill panels.

Flight

A section of stairs between floors and/or landings, usually not more than 13 risings.

Going

The going of a flight of stairs is the horizontal distance between the intersection of the stair nosing line and the floor and the top nosing of the last riser. The individual going of a tread is measured from the nosing of the tread to the line of the nosing of the next tread.

Newel Post

The first or last post in a balustrade run, usually at the top and bottom of a flight. Usually of heavier section than the rest of the balustrade posts. Often part of the main staircase structure.

Nose Line

Notional line connecting the nosings of all treads in a flight of stairs.

Pitch

The angle between the pitch or nose line and the horizontal.

Pitch Line

The notional line connecting the nosings of all treads in a flight of stairs.

Rake

The pitch of the stairs.

Ramp Bends

Bends formed in the handrail usually referring to the change from sloping to horizontal or vice versa of the handrail.

Rise/Rising

The rise of a flight is the vertical distance between the floors or landings connected by the flight. The individual rise is the vertical measurement from top of a tread to nosing of the next tread.

Riser

The face of the step up to the nosing.

Staircase

The entire structure relating to a stair, comprising treads, risers, strings, balustrading, landings etc.

Stair string

The main structure which supports the treads and risers and run for the whole flight. Usually made from metal, wood or concrete.

Step

The tread and riser combined.

Tread

The top or horizontal surface of a step.

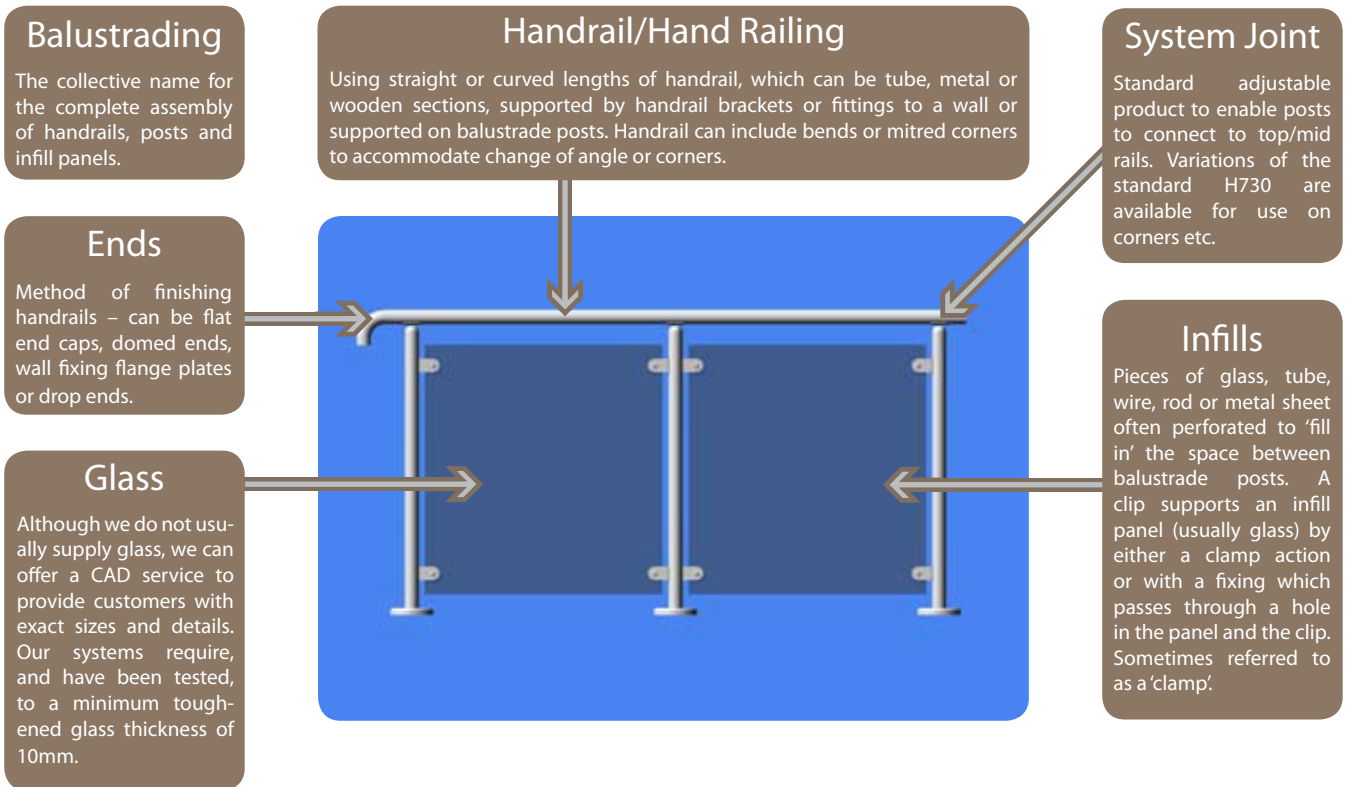


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Understanding Balustrading

Balustrades & Handrails



Balustrading Components

Baluster/Upright

The main vertical support post which is either floor/tread fixed or side mounted to the stairs and supports the handrail and any infill panels or rails.

Handrail/Hand Railing

Using straight or curved lengths of handrail, which can be tube, metal or wooden sections, supported by handrail brackets or fittings to a wall or supported on balustrade posts. Handrail can include bends or mitred corners to accommodate change of angle or corners.

Infill Panel

Pieces of glass or metal sheet often perforated to 'fill in' the space between balustrade posts.

Infill Rails

Lengths of tube, rod or wire fitted between the balustrade posts to fill in the space between the balustrade posts.

Panel Clip

A clip which supports an infill panel usually glass either by a clamp action or with a fixing which passes through a hole in the panel and the clip.

Ring Bracket

A bracket which supports a round or tubular handrail which passes through a ring formed in the top of the bracket.

Saddle Bracket

A bracket which supports a round or tubular handrail with a curved plate which is fixed to the handrail by screws.

Spiral

A spiral handrail or balustrade is one which curves and rises at the same time.

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System Balustrade

Balustrades & Handrails

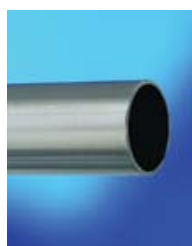
floor mounted



System Balustrade - Floor Fixed



H738 / H809



H249



H809

H249 Tube 16g (1.6mm wall) available in various diameters and finishes. Cut to suit height of balustrade post. Polished Brass. Chrome Plated or Satin Chrome Plated. Stainless Steel. Unfinished.

H738 Core post 700mm or 900mm high overall for 51mm tube. Strong steel tube with welded base plate enables system balustrade to be assembled to meet the requirements of BS6180 or section K of the building regulations for most locations. Requires coverplate H809.

H809 Base coverplate. 155mm diameter coverplate to conceal base fixings. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

System Balustrade

Balustrades & Handrails

side mounted

H865 Side mounting balustrade post with concealed fixing. Post up to 1.5m high, 51mm diameter, capped off at the bottom. With two 38mm diameter mounts for fixing through stair string from reverse side giving 25mm internal projection from string. Requires panel clips and handrail fittings. Post normally suitable for applications requiring up to a 1.5Kn concentrated load on the handrail dependent upon specific site requirements and fixings. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

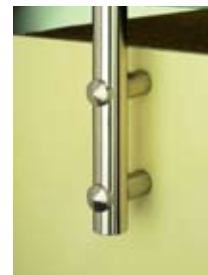
H866 Side mounting balustrade post for blind fixing. Post up to 1.5m high, 51mm diameter, capped off at the bottom. With two 38mm diameter mounts for fixing from front side into blind holes in the stair string giving 25mm internal projection from string. Requires panel clips and handrail fittings. Post normally suitable for applications requiring 1.5Kn concentrated load on the handrail dependent upon specific site requirements and fixings. Polished Brass. Chrome. Satin Chrome. Stainless Steel.



System Balustrade - Side Mounted



H865



H866

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System Balustrade

Balustrades & Handrails

handrailing



H561



H650



H3093



H722



H740



H730



H664



H736



H616



H428



H249

H148 Flange plate, 32mm, 38mm or 51mm for wall fixing H249 tube. Polished Brass. Chrome. Satin Chrome.

H249 Tube 16g (1.6mm wall) available in various diameters and finishes. Tube can be bent if required to meet installation requirements. Tube is available cut to length or stock lengths of 2m or 4m. If handrail is to meet DDA requirements this must be stated when ordering. Polished Brass. Chrome Plated or Satin Chrome Plated. Stainless Steel. Unfinished.

H428 Liner joint to connect lengths of H249 tube. With centre hole to hold during fitting. Nickel Plated Steel.

H561 Special angle bend to any angle in tube supplied with liner joints. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H616 Flat end cap for 25mm, 32mm, 38mm, 51mm, 63mm or 76mm tube. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H650 Special mitred corner to any angle from 90° to 180° fitted with liner tubes for 38mm or 51mm tube. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H664 Domed end knob for 25mm, 32mm, 38mm, 51mm or 63mm tube. Polishes Brass. Chrome. Satin Chrome.

H722 Drop end. Customer to specify angle when ordering. Requires H616 end cap. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H730 Pivoting system joint. Pivoting saddle allows two 38mm or 51mm diameter tubes to be fitted together at any angle. Adjusts through 90°. Polished Brass. Chrome. Satin Chrome.

H731 Pivoting through ring. Adjustable slide over ring allows handrails or cross rails to be fitted to an upright at any angle. Adjust through 90°. For 38mm or 51mm diameter tube. Suitable for use with H740 adjustable elbow. Polished Brass. Chrome. Satin Chrome.

H736 System joint with mitred and welded top saddle to form 90° corners. Also available as H737 at any angle to customers requirements. For 38mm or 51mm diameter tube with mitred corners (H650). Polished Brass. Chrome. Satin Chrome.

H740 Adjustable elbow allows special angles from 90° to 180° to be created on site. Also suitable to create a change of plane up to 25mm. For 38mm or 51mm diameter tube. Polished Brass. Chrome. Satin Chrome.

H3093 Corner elbow 90deg or 135deg in 38mm or 51mm tube supplied with liner joints. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

All handrailing can also be manufactured to comply with the Disability Discrimination Act, Section M of the Building Regulations. This generally requires a 40 - 45mm diameter grip.



H740 / H731

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Infills

Balustrades & Handrails



H249



H613

H618

H619



H607 / H618



H614



H880



Glass Infill Mounting

H249 Tube 16g (1.6mm wall) available in 25mm 38mm or 51mm diameter. Suitable for horizontal or vertical infills. H734 or H730 system joints are required at each end of the tube. Polished Brass. Chrome Plated or Satin Chrome Plated. Stainless Steel. Unfinished.

H607 Large panel clip with fixing hole and shaped back to fit to tube. For 6mm or 10mm panels or other thicknesses to order. Requires H613, H618, or H619 to secure panel into clip. Polished Brass. Chrome. Satin Chrome. Stainless Steel. Unfinished Brass.

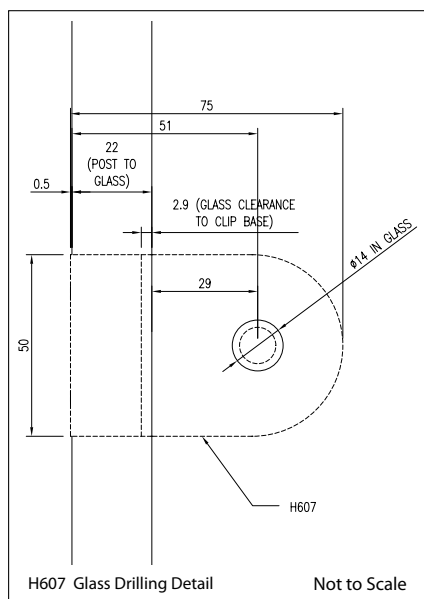
H613 Double ended fixing. To secure 6mm or 10mm panel into H607 or H880 panel clip. With 13mm dia pvc sleeve. Requires 14mm diameter fixing hole. Chrome. Satin Chrome. Unfinished.

H614 Large panel clip with shaped back to fit to tube. For 6mm or 10mm thick panels. This product is a positioning clip and not a clamp. Should only be used as where the panel is adequately supported along the bottom edge. Polished Brass. Chrome. Satin Chrome. Unfinished.

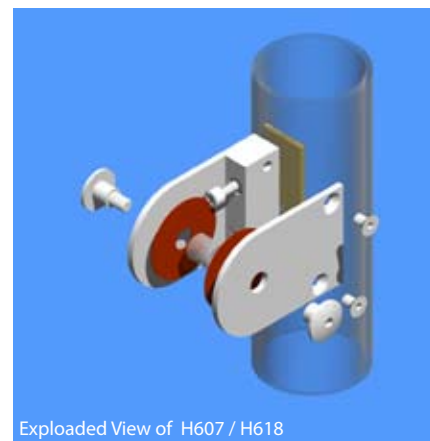
H618 Domed fixing. To secure 6mm or 10mm panel into H607 or H880 panel clip. With 19mm diameter dome. With 13mm pvc sleeve. Requires 14mm dia fixing hole. Polished Brass. Chrome. Satin Chrome. Unfinished.

H619 Cone fixing. To secure 6mm or 10mm panel into H607 or H880 panel clip. With 24mm diameter cone. With 13mm dia pvc sleeve. Requires 14mm diameter fixing hole. Polished Brass. Chrome. Satin Chrome. Unfinished.

H880 Panel clip with slight radiused back edge - heavy duty. Concealed screw fixing into flat surface or tube. Polished Brass. Chrome. Satin Chrome. Unfinished.



We can offer 'perforated' sheets as infill panels to your specification. Please contact our sales team for further details.



Exploded View of H607 / H618



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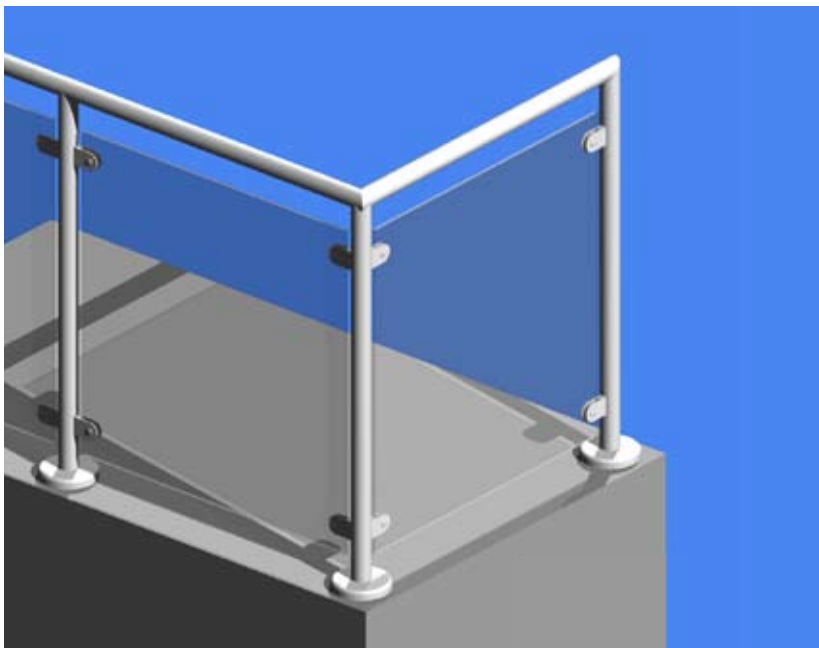


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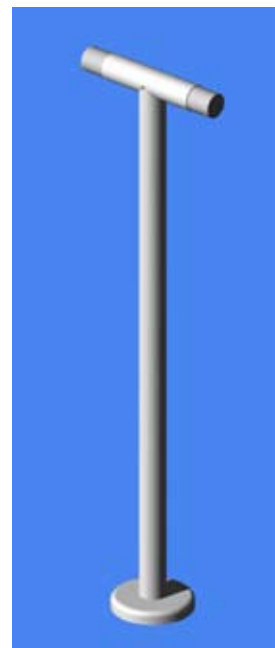


System 7

Balustrades & Handrails



System 7 Components



H739 Post



H739A End



H739B Center



H739C Corner

We offer System 7 as an easy to specify and install balustrading and handrail system which is ideal for external applications. System 7 as standard is suitable for level surface fixing such as balcony areas although special angles can be manufactured on request. This system has been tested and can be supplied to comply with BS 6180 and BS 6399 and Section K of the Building Regulations.

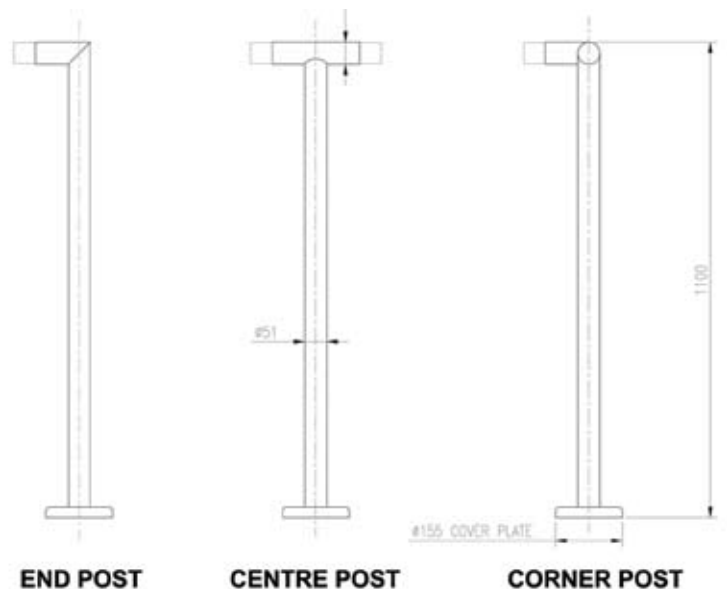
H739 External floor fixed end, centre & corner balustrade post. 1100mm high x 51mm dia 10g tube (3mm wall thickness) upright with 150mm dia x 10mm thick welded base and captive cover plate. Welded top section with fitted liner joints for connecting handrails. Does not require the H738 Core Post. Mirror or Satin Polished Stainless Steel.

H739A End

H739B Centre

H739C Corner

H739R Intermediate rail, 51mm dia 16g handrail for use with H739 balustrade posts. Supplied cut to size to fit between posts. 316 grade stainless steel. Not shown.



This system does not require H738 Core Post

The posts are suitable for our standard range of glass panel clips to provide infills as shown on page 9.

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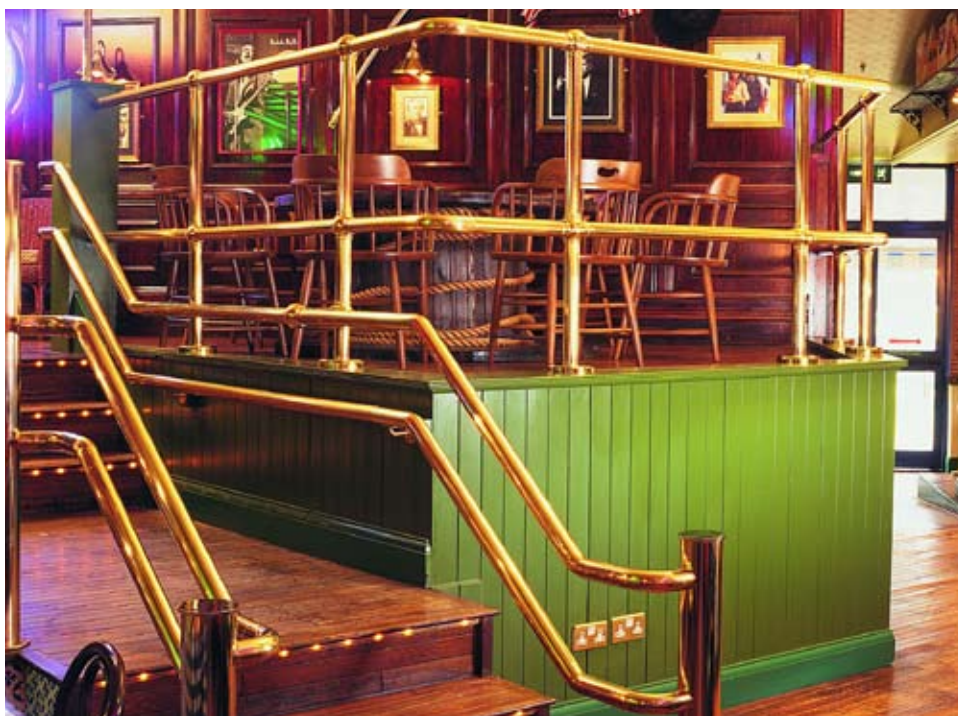


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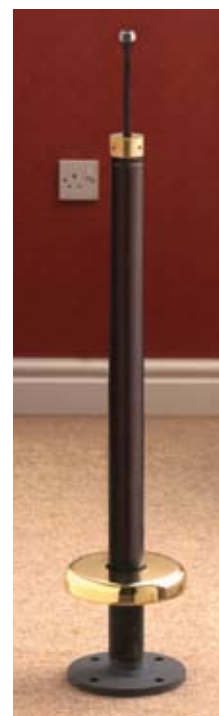


800 Ball Socket System

Balustrades & Handrails



800 Series Balustrade at the Dallas Exchange, Shirley.



H738 / H809

Traditional polished brass, mirror polished or satin chrome ball sockets can be assembled to create a variety of floor or surface mounted structures. Each collar is drilled and countersunk to secure the ball connectors to 25mm, 38mm or 51 mm diameter tube. Ball socket systems can be used with H148 or H559 wall and flange plates. This system can be designed to meet Building Regulations. For further information please contact our Technical team for advice and guidance.

H249 Tube 16g (1.6mm wall) available in various diameters and finishes. Tube can be bent if required to meet installation requirements. Tube is available cut to length or stock lengths of 2m or 4m. If handrail is to meet DDA requirements this must be stated when ordering. Polished Brass. Chrome Plated or Satin Chrome Plated. Stainless Steel. Unfinished.

H738 Core post 700mm or 900mm high overall for 51 mm tube. Strong steel tube with welded base plate enables system balustrade

to be assembled to meet the requirements of BS6180 or Section K of the Building Regulations for most locations. Requires coverplate H809.

- H801** Ball end
- H802** Ball elbow
- H803** Ball tee
- H804** Ball four way
- H805** Ball three way corner 90°
- H806** Ball four way corner 90°
- H809** Base coverplate. 155mm diameter coverplate to conceal base fixings. Polished Brass. Chrome. Stainless Steel.
- H811** Tool fixing set: drill, tap & tap bar
- H812** Collar for special angles
- H813** Ball two way 135°
- H814** Through ball
- H815** Ball three way corner 135°
- H816** Ball four way corner 135°



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Handrailing

Balustrades & Handrails



Handrail



H563



H668



H596



H2466



H818



H249

H148 Flange plate 32mm, 38mm or 51mm for wall fixing H249 tube. Other sizes available. Polished Brass. Chrome. Satin Chrome.

H249 Tube 16g (1.6mm wall) available in various diameters and finishes. Tube can be bent if required to meet installation requirements. Tube is available cut to length or stock lengths of 2m or 4m. If handrail is to meet DDA requirements this must be stated when ordering. Polished Brass. Chrome Plated or Satin Chrome Plated. Stainless Steel. Unfinished.

H616 Flat end cap. For 38mm or 51mm diameter tube. Other sizes available. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H664 Domed end knob. For 32mm, 38mm or 51mm diameter tube. Other sizes available. Polished Brass. Chrome. Satin Chrome.

H668 Handrail bracket with flat top. 65mm overall projection. 75mm diameter fixing plate. Polished Brass. Chrome. Satin Chrome.

H559 Slide in wall plate to slide into 32mm, 38mm or 51mm tube. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H563 Through ring handrail bracket. For either wall or top mounting. For 32mm tube 70mm high overall, for 38mm tube 75mm high or for 51mm tube 91mm high. 63mm diameter fixing plate. Polished Brass. Chrome. Satin Chrome.

H818 Through ring cranked handrail bracket. For 32mm tube 88mm projection overall. For 38mm tube 90mm projection. For 51mm tube 100mm projection. For 63mm tube 110mm projection. For 76mm tube 125mm projection. 63mm diameter fixing plate. Polished Brass. Chrome. Satin Chrome.

H596 Cranked handrail bracket with saddle top. For 38mm or 51mm tube. 78mm centreline projection. 63mm diameter fixing plate. Polished Brass. Chrome. Satin Chrome.

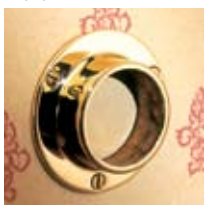
H2466 Cranked handrail bracket with flat top. 76mm centreline projection. 63mm diameter fixing plate. Polished Brass. Chrome. Satin Chrome.



H616



H664



H148



H559

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products



310 System

Balustrades & Handrails



310 System



H310E



H310L / H310F



H616



H249

The 310 system boasts concealed fixings which give a neat and clean appearance and is widely used inside lift cars. These are assembled to the tube on site using an electric drill and spanners to ensure an accurate fit. Back fixings with flange plates are also available if preferred. Factory assembly of components can be specified for ease of installation.

H249 Tube 16g (1.6mm wall) available in various diameters and finishes. Tube is available cut to length or stock lengths of 2m or 4m. Fixing mounts can be fitted to your required positions. If handrail is to meet DDA requirements this must be stated when ordering. Polished Brass. Chrome. Satin Chrome. Stainless Steel. Unfinished.

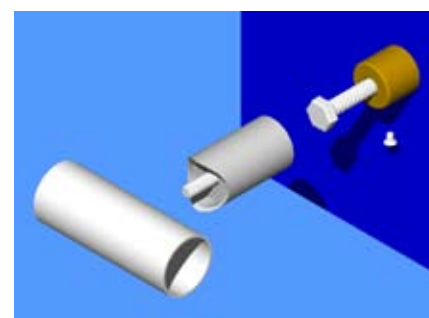
H310E Adaptor backplate for H310 handrail system provides three point fixing to wall. For 38mm or 51mm diameter tube. 76mm diameter fixing plate. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H310F Handrail fixing mount. Provides a concealed fixing to secure handrail to wall. For 38mm or 51mm diameter tube. Provides 50mm gap between back of rail and wall. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H310K Sliding liner. Connector to suit 38mm or 51mm diameter tube. Allows a length of handrail to be fitted between two fixed points and locked into position. Chrome. Satin Chrome.

H310L End formed in tube of H310 handrail system. 38mm or 51mm diameter tube. Polished Brass. Chrome. Satin Chrome. Stainless Steel.

H616 Flat end cap. For 38mm or 51mm diameter tube. Other sizes available. Polished Brass. Chrome. Satin Chrome. Stainless Steel.



Exploded View of H310

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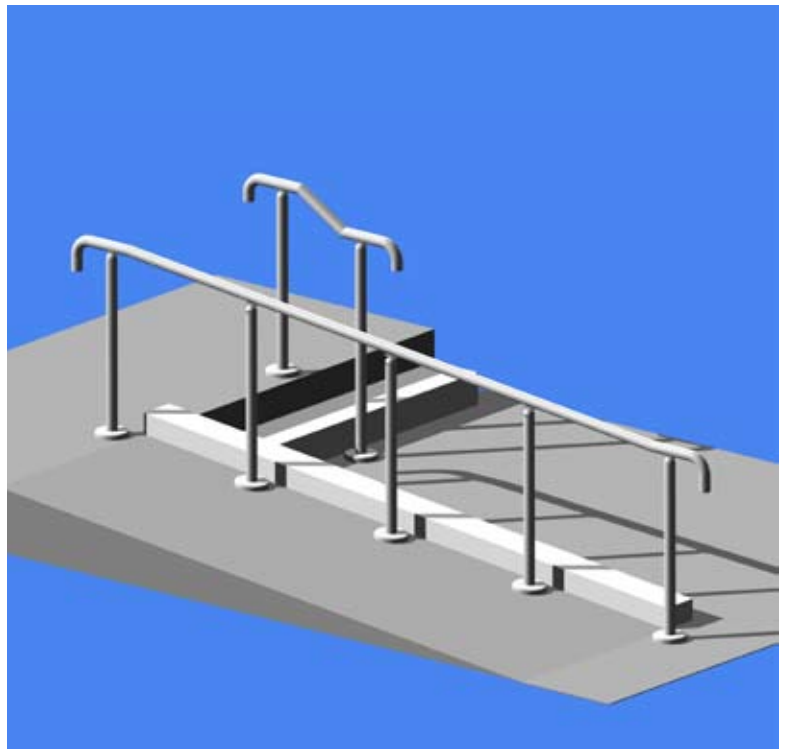


Disabled Access Products

Balustrades & Handrails



Disability Rail System



Example of Stair and Ramp Disability Handrails

The following products have been designed with the help of Disability Access Charter to meet the needs of people with disabilities and to comply with Section M of the Building Regulations 1991.

The main use for the items on this page is to provide assistance to the less able bodied when entering and leaving buildings, both on ramps and stairs internally and externally.

Items can be finished to complement various surroundings as well as having an optional non-slip grips available in three colours to provide contrast against background colours for those with visual disabilities. The grip is suitable for use across a wide temperature range and can be used both inside and outside.

Our Disability Range also includes drop down arms for bathrooms, grab rails and supports. Please refer to our 'Disability Range' brochure.

All items contained within this brochure can be manufactured to meet Section M of the Building Regulations. Our Sales team are happy to provide advice, assistance and quotations.

H1811 Support rail. From 38mm diameter stainless steel tube with 76mm diameter fixing plates and optional cover plates. With non-slip, warm feel grip in red, yellow or blue this rail is suitable for internal or external use. 600mm long over centers, 50mm projection from wall or other sizes made to order.

H1813 Cranked support rail from 38mm stainless steel tube with 76mm diameter fixing plates and optional cover plates. With non-slip, warm feel grip in red, yellow or blue this rail is suitable for internal or external use. 300mm x 300mm, 50mm projection from wall or other sizes made to order.



H1811



H1813

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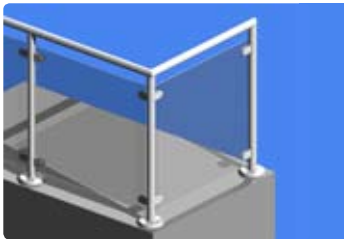


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Design & Specification

Balustrades & Handrails



Balustrade Design

This section of the brochure aims to provide assistance when specifying and installing your balustrade components; however this is for 'guidance' only and should be used in conjunction with any relevant structural engineer or professional's advice and recommendations.

- 1** Clarify the building use and regulations that will need to be complied with before designing the installation.

Confirm the floor type and stair structure and fixings required to comply with any regulations and that the loading needed can be met.

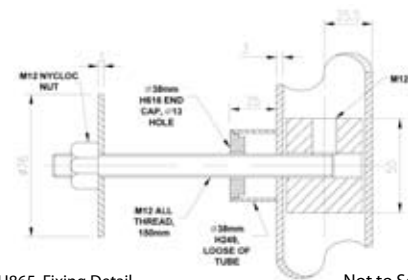
Check that the base plates (if floor fixing) will fit and are adequate otherwise you may need to specify specially manufactured bases.
- 2** If you require infill panels between the upright posts you will need to decide on the style required and again ensure the selected option will comply with your site needs – in particular the loading and spacing.
- 3** Decide whether you or your contractor has the necessary skills for assembling the components or whether you may need us to preassemble posts and cut tube to size etc. We can offer supporting services, such as providing glass details for your glass merchant at an additional cost.
- 4** When considering the appropriate material and finish of your installation the nature of the environment and atmosphere needs careful thought. For example, if you are specifying a balustrade or handrail in a brass material a lacquered finish is not appropriate. For further information please refer to our Maintenance and Cleaning guide.

OTHER CONSIDERATIONS

- **Use of the balustrade** - if on a balcony or as handrail up a flight of stairs. This also includes understanding if it is being used as structural balustrade or simply a 'barrier'. You will need to know whether you must comply with Section M of the Building Regulations associated with the DDA.
- **Post height** - eg. for domestic use is 900mm high (over the pitch of the stairs). Section K of the Building Regulations specifies all requirements.
- **Post quantity and spacing** - our systems have been tested to a maximum post centre of 1250mm.
- **Special angles required** - although we have adjustable elbow joints, you may need to provide information for specially made angle joints (eg. where a stair returns etc).
- **Finishing handrails** - how the handrail will be finished at each end, whether back to a wall or simply needs capping off.

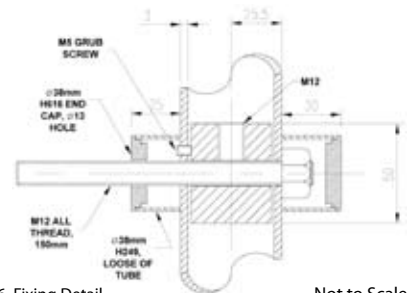


Although the components contained in this brochure have been tested (detailed on page 17) each installation and site is unique and we strongly recommend that you consult a structural engineer or architect to ensure your balustrade will comply with regulations.



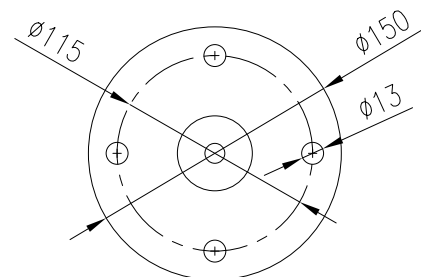
H865 Fixing Detail

Not to Scale



H866 Fixing Detail

Not to Scale



H738 Core Post Base Plate

Not to Scale

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Assembly Guidance

Balustrades & Handrails



Balustrade Assembly

The design of your balustrade and or handrail is individual to your project – you may require components from our standard range or specially designed and manufactured bespoke solutions. Irrespective of any advice or guidance provided below, it remains your responsibility to ensure that the installation complies with all regulations and requirements relevant to your site. It is also your responsibility that the finished assembly is safe and fit for use.

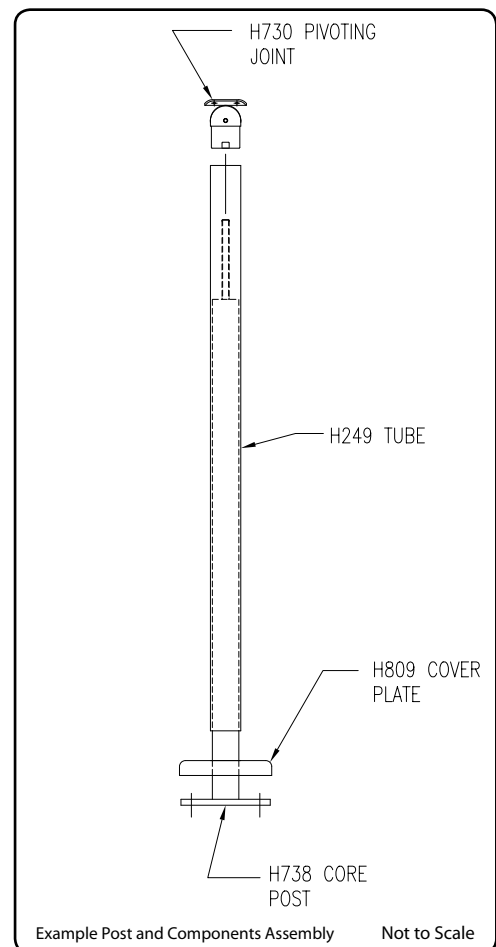
- 1** Unpack components, check all items are present by referring to your Advice Note. Decide how best to proceed with the assembly; whether to fix the posts down in their final position first or layout and trial assemble with infill panels and handrail before final fix.
- 2** Assemble the posts over the 'core post' and any infill panel clips if not already preassembled by us.
- 3** When drilling tube for panel clips or other fittings it is best to centre punch the tube after marking out and then drill slowly through the tube and core post with moderate pressure and the correct size drill.

If you need to thread the hole it is advisable to use a 'first tap' which makes starting the thread easier. This is a simple operation especially when using a cordless screwdriver or drill. When assembling screws or fixings onto the post it is advisable to use a locking compound which will help to prevent fixings working loose.
- 4** When fixing the posts to the floor, identify the type of fixing which will be most appropriate, mark the positions and drill. Position posts, insert the fixings and tighten evenly ensuring the post is vertical in all planes when in position. If it is not in alignment or has moved during fixing you may need to use packing washers around the bolt fixings to ensure stability and correct positioning.

If using H730 system joints as connectors for the top handrail, fix in position and ensure they adjust freely – especially if being used for sloping handrail. If brass or mild steel (chrome plated) handrail is being fixed use a 1/8 drill for self tapping screws which are supplied. If stainless steel handrail is being used, a fixing kit is supplied.
- 5** Having assembled the posts you will need to check alignment for the top handrail. Use steel rules or string pulled tight to set up the correct alignment and nosing positions. Assemble the handrail where necessary using liner connectors and epoxy bonding together.

If cutting tube to size, ensure any sharp edges are removed. Fix securely to posts. If using glass infills we suggest that you assemble and fix the balustrade prior to taking final dimensions or creating templates for the glass. Your glass supplier can give advice.
- 6** Once the installation is assembled you will need to check overall stability, all fixings and any edges and joints for sharpness as they may injure a user. Finally clean the metalwork in accordance with the guidance given on page 17.

i You may require the advice of a structural engineer to ascertain the suitability of fixings with various floor types. If fixing into a specialist floor material, such as marble, pay particular attention and care when fixing so to not damage or crack the material. We recommend you seek appropriate advice.



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Materials, Maintenance & Cleaning

Balustrades & Handrails



Balustrade Maintenance

Following correct installation of the product there should not be a requirement for mechanical or installation maintenance to it. However it is wise to periodically undertake a visual inspection of the installation to ensure that the screws or fixings have not worked loose or undone. If they have, attend to the problem immediately.

Material	Finish	Cleaning Guidance
Brass Architectural quality brass which we match for colour. Standard is ground and mirror polished. Some items may be chrome plated on brass material.	Polished, Unlacquered We recommend that brass handrail and products in high wear areas are not lacquered.	This finish will need to be regularly cleaned with a propriety metal cleaner such as Brasso® to maintain the high lustre. An application of wax polish will inhibit tarnishing; however the amount of protection given is dependent upon the atmospheric conditions surrounding the installation.
	Polished, Lacquered Not suitable for items in areas of high use.	Not suitable for balustrades, handrails and items in high wear situations.
	Chrome Plated Nickel and chrome plated using trivalent chrome. Mainly used internally but is regarded as non ferrous.	This will require cleaning with a damp cloth dipped in soapy water to remove dirt and grime, drying off with a dry cloth. Any persistent marks that are difficult to remove should be polished away using a proprietary cleaner such as a chrome cleaner or similar.
Mild Steel Normally CR4 plating quality but may vary. This is a ferrous material and consideration should be given if being used in a damp atmosphere.	Chrome Plated Mild steel material polished, nickel and chrome plated using trivalent chrome. Bright finish. For interior use only unless when on brass material.	Should be treated as described above but care should be taken not to use a wet cloth as the base material is ferrous and will rust if in contact with moisture or used in a damp atmosphere. Cleaning and maintenance in areas where mild steel products are situated should be considered, eg. mopping floor etc.
	Satin Polished Chrome Plated Nickel and chrome plated using trivalent chrome then sateened by 'brushing' the surface. Occasionally referred to as 'brushed chrome'.	Should be treated as described above but care should be taken not to use a wet cloth as the base material is ferrous and will rust if in contact with moisture or used in a damp atmosphere. Cleaning and maintenance in areas where mild steel products are situated should be considered, eg. mopping floor etc.
	Powder Coated 'Polyester powder coat' to specified colour and finish, eg. gloss etc. May be subject to a minimum quantity charge.	It is recommended that the coating is cleaned with a damp soft cloth dipped in a solution of mild detergent (eg. washing up liquid) and water. If the coating becomes damaged in any way and the base material is revealed immediate repair should be carried out. In areas of high atmospheric pollution it is advisable to maintain the coating at more regular intervals.
Stainless Steel Grade 316 material as standard but other grades available such as 304. Suitable for outdoor use.	Mirror Polished Highly polished to a 'mirror' appearance. Colour matches chrome plated finishes.	Cleaning should be with a damp cloth dipped in soapy water to remove dirt and grime, drying off with a dry cloth. Any persistent marks that are difficult to remove should be polished away using a proprietary cleaner such as chrome cleaner or similar.
	Satin Polished Polished to a 'brushed' finish. This process can allow surface corrosion under certain conditions, usually visible as brown staining. See 'Cleaning'. Colour matched Satin Chrome finishes.	Cleaning should be with a damp cloth dipped in soapy water to remove dirt and grime, drying off with a dry cloth. Any persistent marks that are difficult to remove should be polished away using a proprietary cleaner such as chrome cleaner or similar. Please be aware that if balustrade and/or handrails are in high humidity atmospheres and may be in contact with chemicals, such as swimming pool areas, we do not recommend satin polished stainless steel as it will tarnish over a period of time
	Non-Slip, Warm Feel Grip In, red, yellow or blue fitted to handrail tube. Suitable for internal or external use when used with non ferrous tube and fittings.	It is recommended that the coating is cleaned with a damp soft cloth dipped in a solution of mild detergent (eg. washing up liquid) and water.

We can supply items in an unfinished state for customers to arrange their own final finish.

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Regulations

Balustrades & Handrails



Balustrade Testing and Certification

The structural integrity of a balustrade is imperative whether being used in domestic or commercial environments. The design and installation should be suitable for use and we strongly recommend the involvement of a structural engineer during the planning and fitting stages.

Our standard range of balustrade components have been tested by an external testing consultancy, Lloyds British Testing Ltd, to ensure that our systems are of the highest possible standard. LBS undertook mechanical testing of each range of our systems at their extensive facilities. The tests were based on all relevant British Standards and Building Regulations – these being BS 6180 and BS 6399 and Section K of the Building Regulations.

Each system, in its range of materials, has been physically tested and we are proud to confirm that our products exceeded the required standards. Copies of the certificates and report are available on request.



Balustrade components were assembled for testing. These included:

- System Balustrade - Floor Mounted
- System Balustrade - Sided Mounted
- System 7

All of the above were assembled with glass infill panels.



Systems were tested for 'Horizontally uniformly distributed line load'.

This testing is designed to prove the balustrade can withstand people and objects leaning against it. All systems were able to withstand the required 1.5Kn load meeting the regulation standards.



Testing of 'Uniformly distributed load applied to the infill' (not shown).

This test represented a 'crowd' leaning on the infill panel. Again this proved our system could withstand in excess of the required 1.5Kn/m².



Image shows testing for 'Point load applied to infill'.

This test was important to demonstrate products could withstand over the required 1.5Kn load pushing against the glass infill.

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Floor fixing and side mounted balustrading systems and co-ordinating handrails and accessories.



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Traditional and contemporary products and furniture designed for hotel and leisure sectors.



Disability Range

A range of fittings and accessories in compliance with the DDA 2004.



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Please contact our Sales team for further information, technical assistance or to discuss any requirements.

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