

Uniclass L442	EPIC D411+D42
CI/SfB (34)	X

Architectural Handrail and Balustrade



Project Title: University House, Birmingham  
Client: The University of Birmingham  
Architect: Architects Design Partnership LLP  
Principal Contractor: Wates Construction Limited  
icon Specification: HN.4G.5H.6E.CG.

Photography by Marcus Hilton

**CUBE<sup>®</sup>** is the distinctive member of the **icon** modular handrail and balustrade product range. The system is derived from the desire to specify an alternative to tubular balusters whilst adhering to the strict philosophy of highly engineered, non-fabricated solutions. The design concept was conceived by pairing extruded aluminium flat bar uprights and bracing these together by means of unique **CUBE<sup>®</sup>** components that interlock inside rebates within the inner faces of each section.



#### The CUBE

CUBES have the ability to slide vertically between the twin flats and therefore become anchor points for a variety of component connections, whether this be the handrail, infill panel, intermediate rails or structural fixings to the fabric of the building. Interesting and unusual transitions are created between tubular elements projecting from within the uprights without any welding or bolted connection through the flats.

The modular rationale promotes a series of standard parts which adjust to any angle and perform multiple functions throughout the system.

#### Specifications

The twin uprights and CUBES are finished in our NyMet<sup>®</sup> nylon coating and most fittings projecting from these assemblies are produced in Stainless Steel. Handrails are offered in Stainless Steel or natural Hardwood and as upright centres vary for each fixing and type of scheme, our technical department should be consulted for additional guidance when creating project specifications.

#### Clean Lines

As with all **icon** products, **icon CUBE** is manufactured as a series of machined or cast fittings, mechanically connected together to create a highly engineered system with precise, clean lines between adjoining components. In true **icon** tradition, the **CUBE** system has a sharp, sophisticated appearance, unhindered by the presence of unsightly welds as can often impair bespoke fabrications.



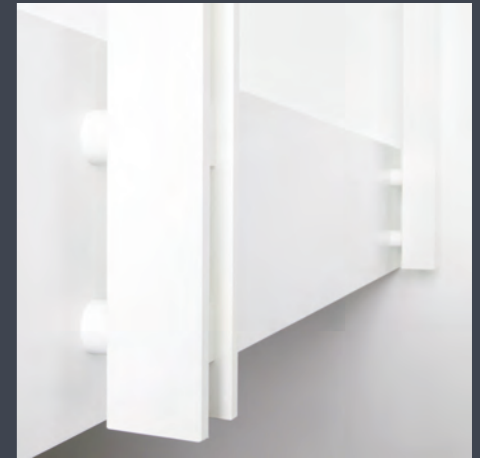
#### Superior Finish

The twin flats used to create the balustrade uprights are produced from extruded aluminium. This material already benefits from an inherently superior surface to that of Mild Steel however this is further enhanced by the application of our unique NyMet<sup>®</sup> nylon coating. Stainless Steel handrails are supplied with a refined, radially brushed finish and natural Hardwood handrails are polished and lacquered.

More information on the range and specification of **icon** finishes can be found on page 14.

#### Supplied, Installed

**icon** is available Internationally on a supply and installation basis as a specialist Architectural Handrail & Balustrade package procured directly by the Client, Developer or Principal Contractor.



#### icon on line

Subscribers can compile **icon** specifications within the **NBS Plus** software package or alternatively, standard specification templates can be obtained from the Internet; at [www.handrailandesign.co.uk](http://www.handrailandesign.co.uk). It is also possible to download AutoCAD drawings of the system components together with generic handrail and balustrade designs.

Specification

Finish Options

Detail Options (Page 12/13)

Toprail	Uprights	Ref	Toprail/Upright	Infill Fittings	Upright Fixing	Glass Panels	
						Clear	Tinted†
Hardwood	NyMet Coated	HN	4G 4H 4L	5C 5H	6A 6E 6F 6G	CG	TG
Stainless Steel	NyMet Coated	SN	4G 4H 4L	5C 5H	6A 6E 6F 6G	CG	TG

In price descending order.

† Bronze or Grey.



SN.4H.5C.6G.CG

Satin Polished Stainless Steel top rail connected with offset stems to Gun Metal NyMet® coated fin fixed twin flat uprights at max 1400mm centres with offset panel holders supporting 10mm thick toughened glass.



6G  
Fin Side Fixing.

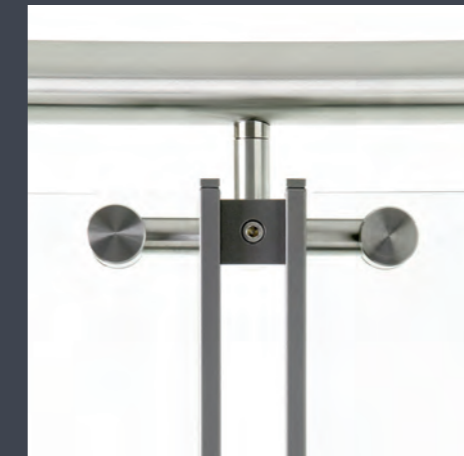


SN.4L.5H.6E.CG

Satin Polished Stainless Steel top rail connected with offset stems to Cadmium NyMet® coated side fixed twin flat uprights at maximum 1400mm centres with double offset panel holders supporting 10mm toughened clear glass.



5H  
Double Offset Panel Holder.



4L  
Offset Stem Toprail/Double Infill Panel Connector.



4L  
Offset Stem Toprail/Double Infill Panel Connector.

Specification

Finish Options		Detail Options (Page 12/13)				Panel Perforation
Toprail	Uprights	Ref	Toprail/Upright	Infill Fittings	Upright Fixing	Ø 6mm
Hardwood	NyMet Coated	HN	4G 4H 4L	5C 5H	6A 6E 6F 6G	PC6
Stainless Steel	NyMet Coated	SN	4G 4H 4L	5C 5H	6A 6E 6F 6G	PC6

In price descending order.

Perforated Panel Finish

Mild Steel perforated infill panels are supplied with our NyMet® coated finish either in a standard BS or RAL colour or in one of the unique icon metallics as shown on page 14.



SN.4H.5C.6G.PC6  
Satin Polished Stainless Steel toprail connected with offset stems to Gun Metal NyMet® coated fin fixed twin flat uprights at maximum 1400mm centres with offset panel holders supporting 3mm thick NyMet® coated Mild Steel infill panels.



HN.4H.5C.6G.PC6  
Polished Maple Hardwood toprail connected with offset stems to Gun Metal NyMet® coated fin fixed twin flat uprights at max 1400mm centres with 3mm thick NyMet® coated Mild Steel infill panels.



SN.4H.5C.6G.PC6



5C  
Single Offset Panel Holder.



4H  
Offset Stem Toprail/Single Infill Panel Connector.



4H  
Offset Stem Toprail/Single Infill Panel Connector.

Specification

Finish Options

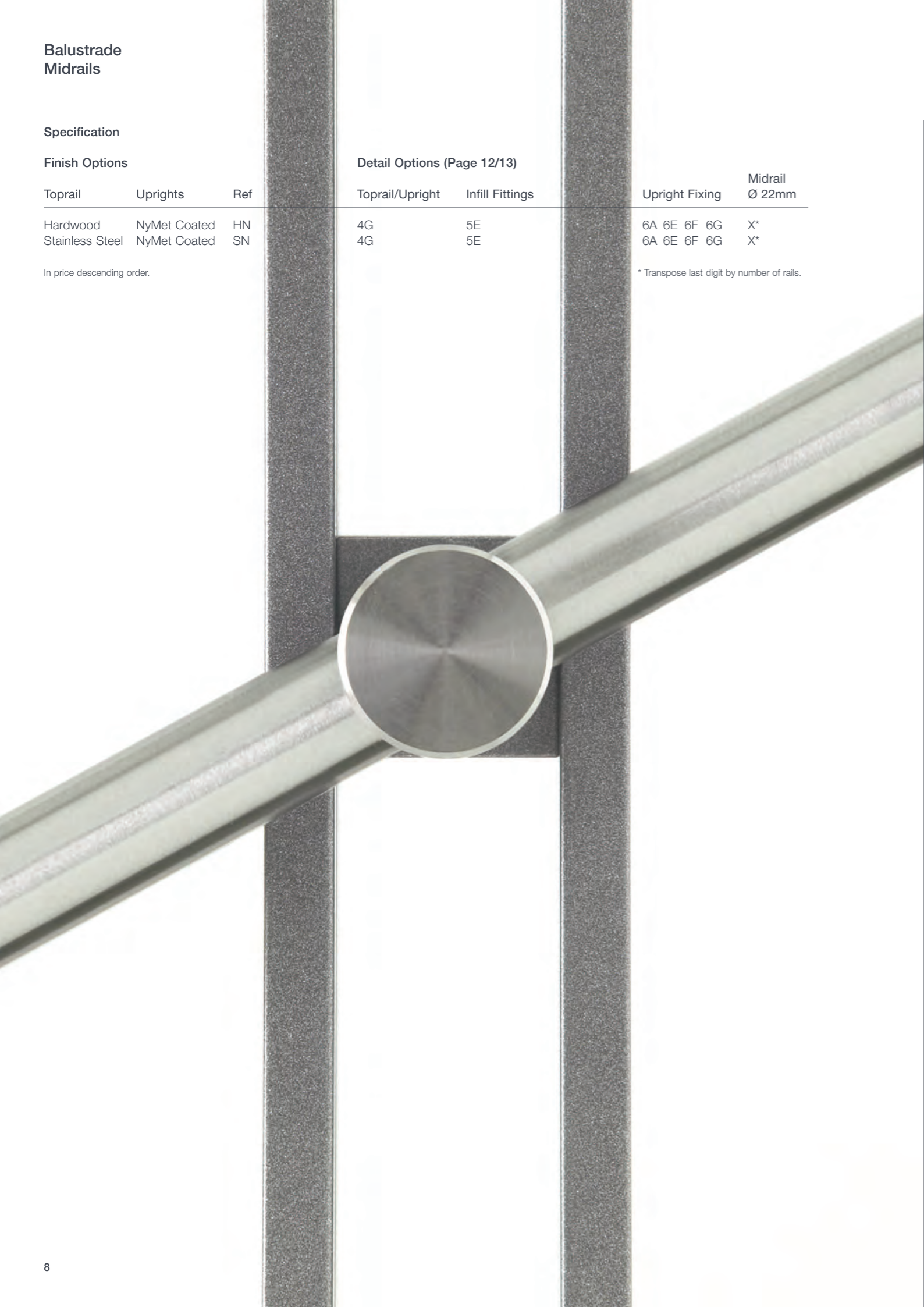
Toprail	Uprights	Ref
Hardwood	NyMet Coated	HN
Stainless Steel	NyMet Coated	SN

In price descending order.

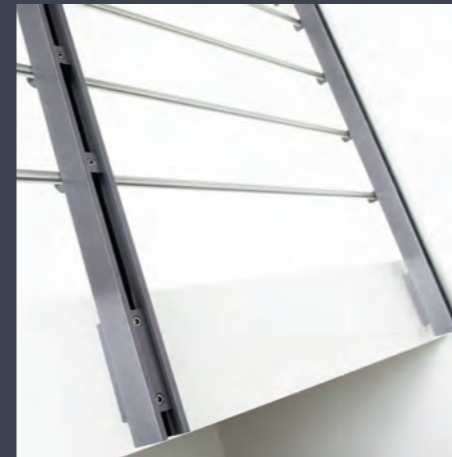
Detail Options (Page 12/13)

Toprail/Upright	Infill Fittings	Upright Fixing	Midrail Ø 22mm
4G	5E	6A 6E 6F 6G	X*
4G	5E	6A 6E 6F 6G	X*

\* Transpose last digit by number of rails.



5E  
Offset Midrail - Intermediate.



6G  
Fin Side Fixings.



SN.4G.5E.6G.X4  
Satin Polished Stainless Steel toprail connected with offset stems to Tungsten NyMet® coated fin side fixed twin flat uprights at maximum 1400mm centres with 4 x 22mm diameter offset midrails.



5E  
Offset Midrail - Termination.



SN.4G.5E.6G.X4  
Satin Polished Stainless Steel toprail connected with offset stems to Tungsten NyMet® coated fin side fixed twin flat uprights at maximum 1400mm centres with 4 x 22mm diameter offset midrails.



5E  
Offset Midrail - Intermediate.

Handrail Specification

Finish Options

Detail Options (Page 12)

Handrail	Bracket	Ref	Brackets	Ø mm
Hardwood	Stainless Steel	HS	1C 1F	50
Stainless Steel	Stainless Steel	SS	1C 1F	50

In price descending order.



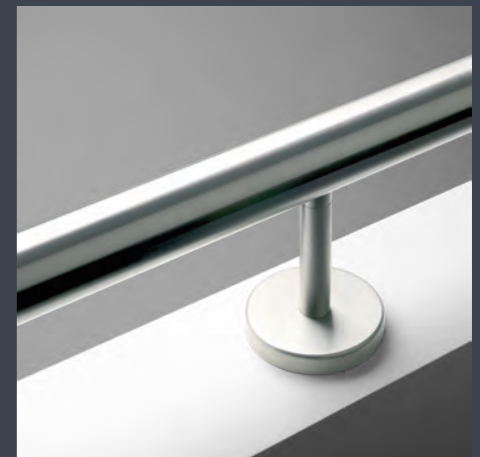
**SS.1C**  
Satin Polished Stainless Steel handrail connected at maximum 1200mm centres to Stainless Steel stem brackets with concealed fixings.

Opposite: **HS.1C**  
Polished American Black Walnut<sup>†</sup> Hardwood handrail connected at maximum 1200mm centres to Stainless Steel stem brackets with concealed fixings.

<sup>†</sup> Special species to order.



**HS.1C**  
Polished Cherry Hardwood handrail connected at maximum 1200mm centres to Stainless Steel stem brackets with concealed fixings.



**SS.1F**  
Satin Polished Stainless Steel walltop handrail connected at maximum 1200mm centres to Stainless Steel stem supports with concealed fixings.

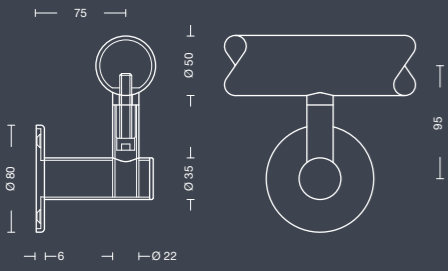
**Handrail Ends, Bends**

Handrails and balustrade top rails typically have stopped or capped ends and mitres are generally used to change direction whether Stainless Steel or Hardwood is specified. For structural purposes a steel core rail is rebated into offset Hardwood balustrade top rails.

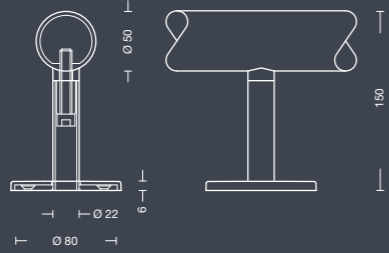
**Concealed Fixings**

icon endorses positive detailing and with such emphasis placed on precision it is complimentary for fixing screws and bolt heads to be discretely concealed wherever possible. End caps, cover discs and rosettes feature in the design of most components to provide a tidy and tamper proof solution, particularly appropriate for public and educational building applications.

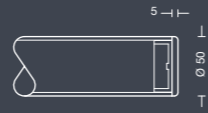
1C Stem Bracket with Concealed Fixings



1F Straight Stem with Concealed Fixings



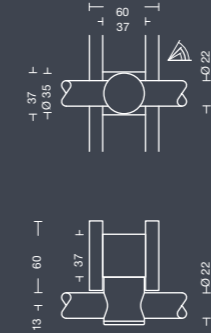
2A End Cap



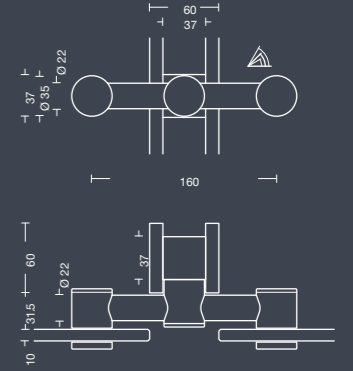
5C Single Offset Panel Holder



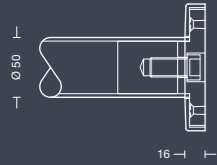
5E Offset Midrail



5H Double Offset Panel Holder

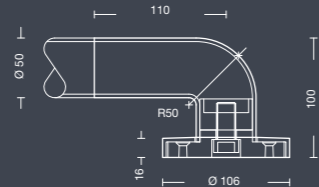


2B End with Concealed Fixings



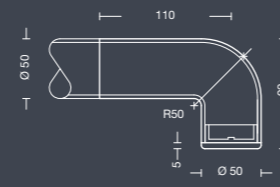
2C End Return with Concealed Fixings

Hardwood not available.

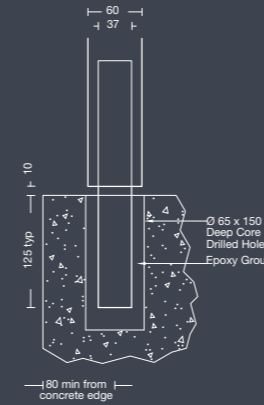


2D Dropped or Returned End

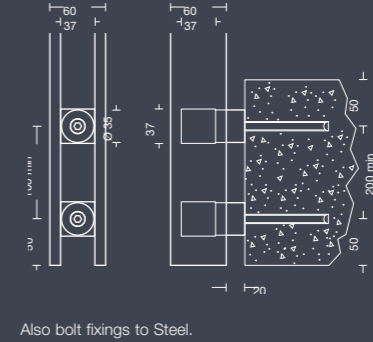
Hardwood not available.



6A Spigot Fixing

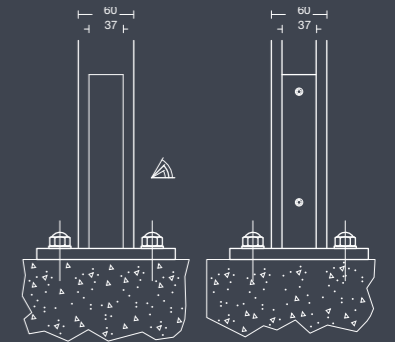


6E Side Fixing



Also bolt fixings to Steel.

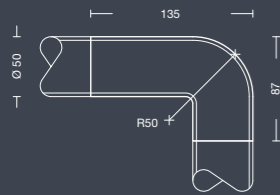
6F Special Top Fixing as required



Also bolt fixings to Steel.

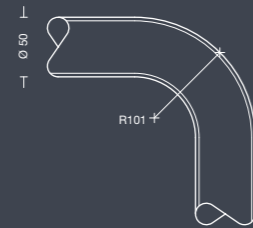
3A Elbow Bend

Hardwood not available.



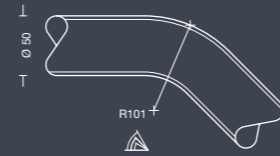
3B 90° Pulled Bend

Hardwood not available.

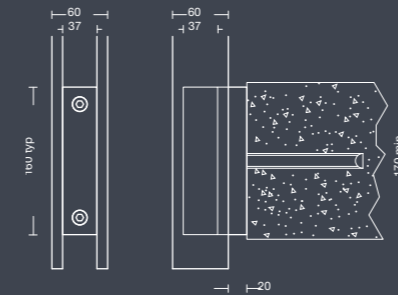


3C Angled Bend

Hardwood not available.

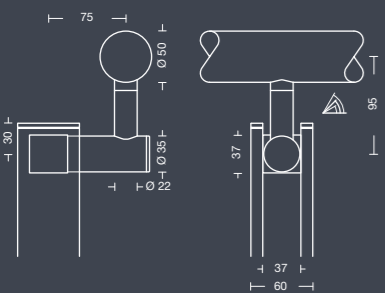


6G Fin Side Fixing

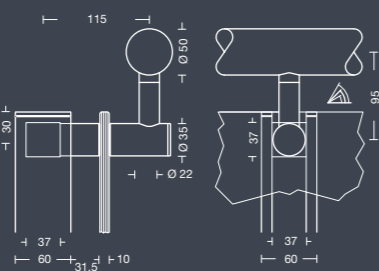


Also bolt fixings to Steel.

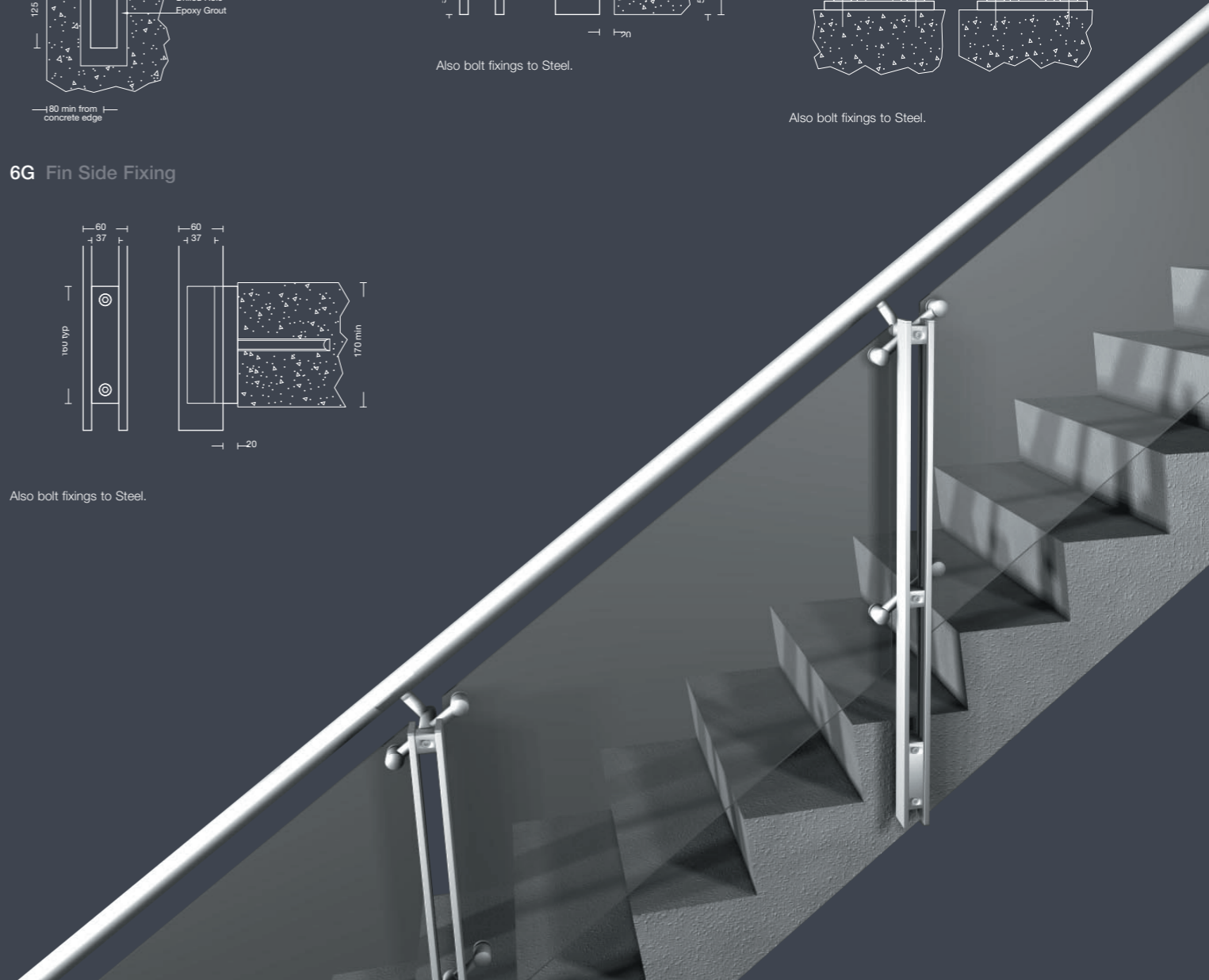
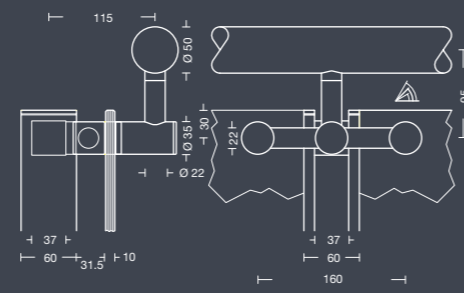
4G Offset Stem Toprail Connector



4H Offset Stem Toprail/  
Single Infill Panel Connector



4L Offset Stem Toprail/  
Double Infill Panel Connector



**icon** can be tailored to suit the requirements of any interior design concept with options ranging from sophisticated corporate steel finishes through to inviting natural Hardwoods for retail or even residential environments. Whatever the nature of the scheme **icon** has a finish, design and specification capable of making a tangible contribution towards the successful execution of the project. As tactile elements of buildings directly influence the occupiers' perception of their surroundings, it is essential to attain a quality finish for high profile fixtures such as handrails.

**NyMet® Coating**

The extruded aluminium **CUBE** components and twin flat uprights are factory finished in our unique NyMet® nylon coating. NyMet® comprises a three coat system of electrostatically applied Polymer offering a 150 micron finish which has twice the thickness and 10 times the resistance to abrasion of a typical polyester powder coating. NyMet® has flexible properties which prevent the coating from chipping and flaking, weathering resistance is excellent and the finish satisfies all relevant Fire Officer requirements.

**NyMet® Range**

NyMet® is generally applied as a semi gloss finish and is available in an exclusive range of metallics together with black and white as the primary range of options. Standard BS or RAL colours can be supplied and even special solid colours or metallics can be formulated upon request.

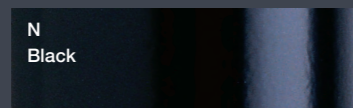
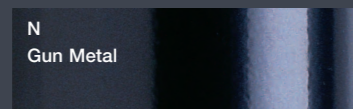
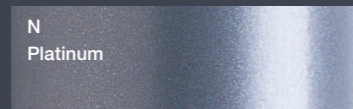
**Stainless Steel**

The handrails, midrails and associated brackets are produced in 304 grade Stainless Steel for internal use and 316 grade for external applications. A refined, brushed satin finish is directionally applied to certain components whereas tubes are radially polished.

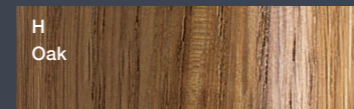
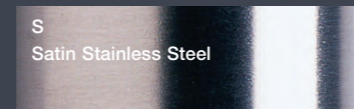
**Natural Hardwoods**

**icon CUBE** offers a contemporary selection of factory polished and lacquered Hardwood handrails as standard. Other species can be considered upon request and all Hardwoods used for **icon** handrails are supplied from sustainably managed sources.

Twin Uprights and CUBE



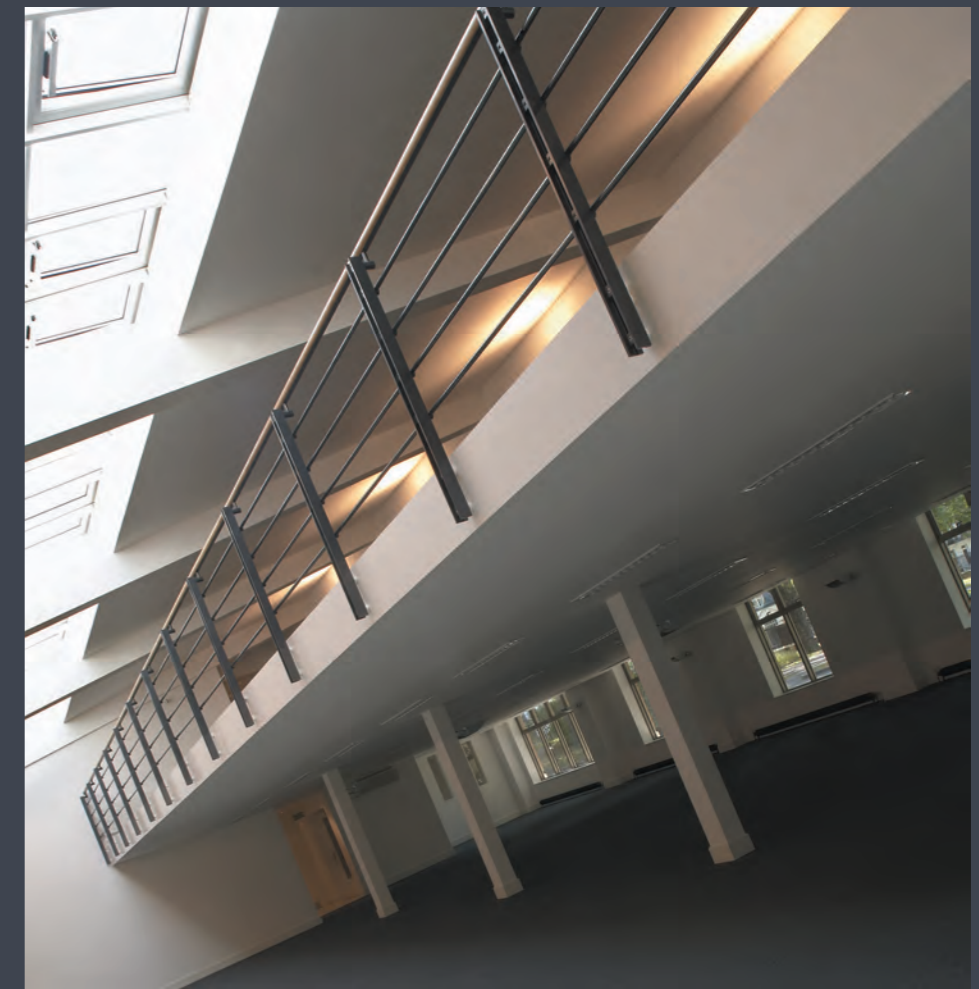
Handrails



Project Title: Duke of York's Headquarters, London  
 Client: Cadogan Estates Limited  
 Architect: Paul Davis & Partners  
 Principal Contractor: Ibex Interiors Limited  
 Quantity Surveyor: The Trevor Patrick Partnership  
 icon Specification: HN.4G.5E.6E.X4\*

Photography by John Freeman

\* NyMet® coated stem brackets, midrails and fittings to special order. These components are supplied in Stainless Steel as standard.



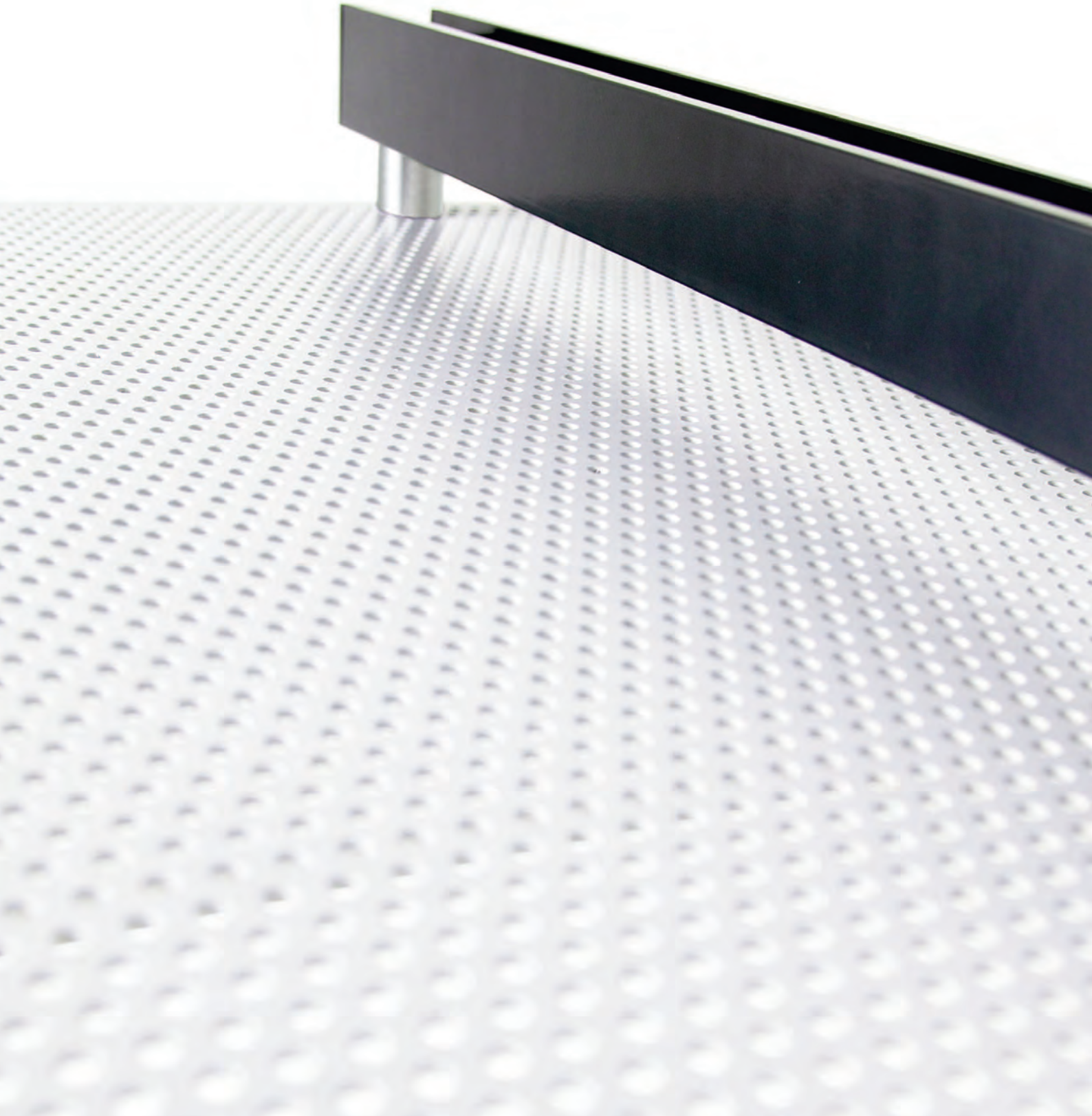
**Handrail Design Limited**

Sail & Colour Loft Historic Dockyard Chatham Kent ME4 4TE

Tel: +44 (0)1634 817800 Fax: +44 (0)1634 817711

E-mail: [info@handraildesign.co.uk](mailto:info@handraildesign.co.uk)

[www.handraildesign.co.uk](http://www.handraildesign.co.uk)



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