0552P CON-FORM IN METALWORK AND PLATFORMS – FABRICATED

Branded worksection

This branded worksection *Template* has been developed by NATSPEC in conjunction with Con-form Group and may be used whilst the Product Partner is licensed to distribute it. The copyright remains with NATSPEC. As with all NATSPEC worksections, it is the responsibility of the user to make sure it is completed appropriately for the project. The user should also review its applicability for local conditions and regulations. Check www.natspec.com.au for the latest updated version.

Worksection abstract

This branded worksection *Template* is applicable to Con-form surface mounted platform systems, screens and acoustic solutions. It also includes what is generally known as custom built architectural metalwork such as stairs, ladders, walkways, balustrades, handrails, screens, grilles, guards, bollards, furniture, and decorative items not manufactured by Con-Form.

Background

For information on some related Work Health and Safety issues, see Safe Work Australia - Welding , Safe Work Australia - Electroplating and Safe Work Australia - Foundry Work.

The defaults for handrails and grabrails in AS 1428.1 could be used for general application.

Fabrication and finishes to brasses and bronzes may have to be expanded.

***Guidance* text**

All text within these boxes is provided as guidance for developing this worksection and should not form part of the final specification. This *Guidance* text may be hidden or deleted from the document using the NATSPEC Toolbar or the hidden text *Hide* and *Delete* functions of your word processing system. For additional information visit FAQs at www.natspec.com.au.

***Optional* style text**

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Normal* style text where it is applicable to a project.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- *0181 Adhesives, sealants and fasteners.*
- *0183m Metals and prefinishes*.
- *0191 Sundry items* for proprietary metal items.
- *0193 Building access safety systems safety systems*.
- *0242 Landscape – fences and barriers* for metal fences and chain link fabric fencing.
- *0341 Structural steelwork* for structural steel items.
- *0344 Steel – hot-dip galvanized coatings*.
- *0345 Steel – protective paint coatings* for external applications.
- *0421 Roofing – combined* for rainwater goods.
- *0457 External screens* for sunscreens, awnings and pergolas.
- *0467 Glass components* for the toughened glass component of balustrades.
- *0553 Stainless steel benching* for stainless steel benching and associated fitments and bench/sink units that form part of custom made metal fixtures.
- *0671 Painting*.
- *0673 Powder coatings.*

Material not provided by Con-Form

This branded worksection includes generic material which may not be provided by the Product Partner including:

Stairs, ladders, walkways, balustrading, handrails, guards, bollards, furniture, and decorative items

Documenting this and related work

You may document this and related work as follows:

- Show the location and layout of stairs, ladders and walkways to your office documentation policy.
- Import applicable material from this worksection to *0641 Applied wall finishes* and *0551 Joinery* for metal trims and fixings.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Specifying ESD

The following may be specified by including additional text:

Recycled material content.

Recycling of off-cuts or scraps.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

Con-form Group is an energetic team dedicated to providing Australian designed and value engineered products that are quick to assemble, lightweight and affordable platform systems with 20 year warranty standard. Con-form's growing series of structurally unique, aluminium products are creating a new dimension in the approach to surface mounted platforms and are designed to eliminate the need for any cutting or welding, providing excellent flexibility and error free assembly, unlike traditional engineering methods.

1.1 RESPONSIBILITIES

General

Requirement: Provide Con-form surface mounted platform systems, screens and acoustic solutions and metal fixtures, as documented.

Documented is defined in the *0171 General requirements* worksection as meaning contained in the contract documents.

Performance

Requirements:

- Undamaged, plumb, level and straight or as documented.
- Free of surface defects or distortions or as documented.

The design should make sure the fixture remains secure and functional for the expected life of the installation.

1.2 COMPANY CONTACTS

Con-form technical contacts

Website: www.con-formgroup.com.au/contact-us/

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 STANDARDS

General

Access for maintenance: To AS 1657.

The NCC cites AS 1657:2013. For design for access and mobility, see AS 1428.1. The BCA also cites AS 1428.1-2001. For barriers to prevent falls including balustrades for Class 1 and Class 10 buildings, see BCA 3.9.2, for Class 2 to 9 buildings, see BCA D2.16.

Tactile indicators: To AS/NZS 1428.4.1.

The BCA also cites AS 1428.4.1-1992.

1.5 TOLERANCES

General

Requirement: ± 2 mm from design measurement.

1.6 MANUFACTURER'S DOCUMENTS

Technical manuals

Website: www.con-formgroup.com.au/product-brochure/

1.7 SUBMISSIONS

Certification

Use this subclause if structural design is required in the preparation of shop drawings, certification for its design and installation is required from a professional engineer engaged by the contractor. This situation may arise for work outside of the consultant's brief e.g. the installation of proprietary doors or balustrades.

General: Engage a professional engineer and submit certification for the design and installation of: [complete/delete]

Nominate the item or component.

Execution details

Welding procedures: Submit details of proposed welding procedures before fabrication.

Welding dissimilar metals: Submit the following details:

- Type and thickness of materials to be welded.
- Proposed joint preparation and welding procedures.
- Proposed filler metal.
- Expected dilution (proportion of fused parent metal in the weld metal).

Operation and maintenance manuals

General: Submit manufacturer's recommendations for service use.

Products and materials

Proprietary items: Submit the manufacturer's standard drawings and details showing:

- Methods of construction.
- Assembly and fixing, with dimensions and tolerances.

Stainless steel: For each batch of stainless steel supplied to the works, submit the certificate of conformance or test certificate to the applicable standard, as documented.

The Australian Stainless Steel Development Association (ASSDA) recommends the test certificate includes the following:

- Chemical composition.
- Room temperature of tensile properties.
- Hardness: HRB, HRC or Brinell.
- Product form and state: Size, finish and processing method.
- Standards and grading.
- Manufacturer and their identification (heat) number.
- Physical properties e.g. thermal, electrical, and magnetic may be included.

Stainless steel welding: Before fabrication commences, submit evidence of qualification of the welding procedure by testing to AS/NZS 1554.6 clause 4.7 or evidence of prequalification to AS/NZS 1554.6 clause 4.12.

See AS/NZS 1554.6 clause 4.7 on the method of qualification of welding procedure by testing.

Prototypes

Requirement: Provide prototypes as documented.

Document in the **Prototype Schedule**.

Installation: Erect prototype items in their final locations, incorporating at least one example of each component and fixing to building elements.

Prototype schedule

Item	Prototype size	Location

For full scale or large scale prototypes nominate a suitable place and location for its erection and evaluation prior to construction. Delete if the size of the project does not justify a prototype.

Samples

General: Submit samples of the following:

- Each type of joint.
- Each type of finish illustrating the range of variation.
- Sections for use in fabricated work.

Samples required for: [complete/delete]

Nominate metal fixtures that require samples for design confirmation.

Samples schedule

Item	Sample size	Number

For natural materials call for a number of samples to illustrate the expected range in surface appearance.

Shop drawings

General: Submit shop drawings to a scale that best describes the detail, showing the following:

- Overall dimensions.
- Details of fabrication and components.
- Details of fabrication involving other trades or components.

e.g. toughened glass balustrade panels, proprietary louvres.

- Information necessary for site assembly.
- Proposals for the break-up of large items as required for delivery to the site.
- Proposed method of joining the modules of large items.

If delivery involves a goods lift nominate the car size and capacity.

These shop drawing requirements assume the installation is fully detailed. Edit as required.

Subcontractors

General: Submit names and contact details of proposed suppliers, fabricators and installers.

Delete if supplier/fabricator/installer details are not required.

Warranties

Requirement: Submit the Con-form 20 year warranty.

1.8 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Arrival of materials on site or in workshop.
- Shop fabricated or assembled items ready for delivery to the site.
- Commencement of shop or site welding.
- Site erected assemblies on completion of erection, before covering up by cladding and encasing.
- Steel surfaces prepared for, and immediately before, site applied finishes.

Amend to suit the project, adding critical stage inspections required.

Hold points, if required, should be inserted here.

Surfaces requiring inspection

Welded components, steel castings and corroded metal surfaces: Visual inspections to AS 3978.

2 PRODUCTS

2.1 GENERAL

Product substitution

Other products: Conform to PRODUCTS, **GENERAL**, **Substitutions** in *0171 General requirements*.

The *0171 General requirements* clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Storage and handling

Requirement: Store and handle fabricated metalwork, as follows:

- Deliver to site in unbroken wrapping or packing.
- Store on a level base, away from uncured concrete and masonry and areas of wet plaster.
- Do not store in contact with other materials that may cause staining, denting or other surface damage.
- Use gloves when handling precoated finishes.
- Keep storage time to minimum by delivering items only when required for installation.

Identify and include requirement for transport, protection of surfaces and storage at site.

Marking

General: Provide suitable and sufficient marks or other means for identifying each member of site-erected assemblies, and for their correct setting out, location, erection and connection. Mark bolted connections to show the bolting category. Do not mark stainless steel by notching.

2.2 MATERIALS AND COMPONENTS

Component member sizes including wall and sheet thicknesses should be shown on the drawings. Otherwise a series of component schedules, on a project specific basis, will need to be prepared.

Metals and components

Performance: Provide metals and components in quantity, lengths and cross-sections of strength and stiffness suited to their required function, finish, fabrication and method of installation.

Fasteners

Performance: Provide non-galvanic corrosion fasteners.

Materials: Provide fasteners in materials of structural and mechanical strength and corrosion resistance at least equal to that of the lowest resistant metal in the connection.

To copper and copper alloys: Copper or copper-alloy fixing devices only.

To aluminium and aluminium alloys: Aluminium alloy or non-magnetic stainless steel fixing devices only.

To stainless steel: Appropriate stainless steel materials only.

2.3 CON-FORM SURFACE MOUNTED PLATFORM SYSTEMS

Platform systems

Series 1: A penetration free system for profile sheet metal roofing of any pitch, as follows:

- Aluminium components with stainless steel fixings.
- Minimum start height: 138 mm.
- Module size: 600 mm.

Series 2: A penetration free adjustable free standing system for concrete slabs, as follows:

- Aluminium components with stainless steel fixings.
- Minimum start height: 330 mm.
- Module size: 600 mm.
- Type 304 stainless steel base supports with rubber isolation pads to reduce vibration and noise transfer.
- Base support adjustment: Maximum 100 mm.

Series 3: A high performance, penetration free system for both profile sheet metal roofing and concrete slabs for platforms with increased height and air-flow requirements, as follows:

- Aluminium components with stainless steel fixings.
- Minimum start height: 200 mm.
- Module size: 600 mm.

Screens and acoustic solutions

Screens: Powder coated aluminium screens with stainless steel fixings, as follows:

- Standard heights: 1200, 1600 and 2000 mm.
- Free area: 18.75%

Acoustic screen walls:

- Soundshield: Weighted sound reduction index (R_w): 27.
- Peacemaker: Noise reduction coefficient: NRC 1.
- Acoustic+: Combination of noise attenuation properties of Soundshield and Peacemaker systems.

3 EXECUTION

3.1 CONSTRUCTION GENERALLY

The general provisions of the worksection may need to be supplemented by specific requirements for particular installations. AS 1562.1 Appendix C Table C3 is a guide to compatibility of metals.

Aluminium structures

Standard: To AS/NZS 1664.1 or AS/NZS 1664.2.

Metals

Performance: Provide metals capable of transmitting the loads imposed and sufficient for the required performance and behaviour of the assembly without causing deflection or distortion of finished surfaces.

Incompatible metals: Separate using concealed layers of suitable materials in appropriate thicknesses.

Fabrication

Workshop: Fabricate and pre-assemble items in the workshop wherever practicable.

Edges and surfaces: Keep clean, neat and free from burrs and indentations. Remove sharp edges without excessive radiusing.

Tube bends: Form bends in tube without deforming the cross section and material thickness.

Colour finished work: Match colours of sheets, extrusions and heads of fasteners.

Thermal movement: Accommodate thermal movement in joints and fastenings.

Tolerances: ± 2 mm from design dimensions.

Joints

General: Fit joints to an accuracy appropriate to the class of work. Finish visible joints made by cutting, drilling, welding, brazing or soldering using grinding, buffing or other methods appropriate to the class of work, before further treatment.

Self-finished metals: Free of surface colour variations, after jointing.

Joints: Fit accurately to a fine hairline or as documented.

Splicing

General: Provide structural members in single lengths.

3.2 WELDING AND BRAZING

Welding

Quality: Provide finished welds which are free of surface and internal cracks, welding slag and porosity.

Site welds: Avoid site welding wherever possible. If required, locate site welds in positions for down hand welding.

Butt weld quality level: Not inferior to the appropriate level recommended in AS/NZS 1554.1 Section 6, AS/NZS 1554.6 Section 6 or AS 1665 Appendix A, as appropriate.

If the minimum quality level specified here is not acceptable, show the required level on the drawings.

Brazing

General: Make sure brazed joints have sufficient lap to provide a mechanically sound joint.

Butt joints: Do not use butt joints for joints subject to load. If butt joints are used, do not rely on the filler material only.

Filler metal: [complete/delete]

Select the filler metal, see AS/NZS 1167.1.

Base metal(s): [complete/delete]

3.3 STAINLESS STEEL FABRICATION

For general advice, refer to the *Australian stainless reference manual*, produced by the Australian Stainless Steel Development Association (ASSDA). Refer also to *0553 Stainless steel benching*, for commercial kitchen benching. See also WTIA TN16. For costal locations see ASSDA bulletin 2010 for information on the prevention of tea-staining.

Welding stainless steel

Certification of welders: To AS 1796.

Riveting

General: Use only to join stainless steel sheet or strip less than 1 mm thick. Drill (not punch) the rivet hole, and drive the rivet cold. On completion, clean and passivate the riveted assembly.

Soldering

General: Do not solder stainless steel.

3.4 CON-FORM SURFACE MOUNTED PLATFORM SYSTEMS

Installation

Requirement: Install in conformance with manufacturer's recommendations.

3.5 CUSTOM-BUILT STEEL STAIRS

General

Materials, design and construction: To AS 1657.

Nosing strip: To BCA D2.13.

Fabrication

Method: Welding.

Joints: Produce smooth unbroken surfaces at joints or as documented. Scribe the joints to all steel members. Make end-to-end joints over an internal sleeve.

Bends: Make changes of direction in rails by evenly curved pipe bends.

Free ends: Seal the free ends of pipes with fabricated or purpose-made end caps.

Nosing strip: To BCA D2.13.

Fixing to structure

General: Provide fabricated predrilled or purpose-made brackets, anchors or post bases, and attach the steel member to the building structure with fixings, including bolts into masonry anchors, and coach screws or bolts into timber, of metal compatible with the steel member.

Galvanizing

General: If possible, complete fabrication before galvanizing; otherwise apply a zinc-rich primer to affected joint surfaces.

Other protective coatings

General: Apply other protective coatings as documented and to the manufacturer's recommendations.

3.6 PROPRIETARY STAIR SYSTEMS

General

Materials, design and construction: To AS 1657.

Nosing strip: To BCA D2.13.

Straight flight stair assembly: A proprietary system, pre assembled and fixed in place, comprising the following:

- Stair flights with treads and risers.
- Top landing.
- Balustrade and handrail to stair flight and landings.

Circular stairs: A proprietary system, mechanically assembled and fixed in place, comprising the following:

- A central steel tube column.
- Prefabricated metal treads sleeved over and cantilevered from the column.
- Top landing.
- Balustrade and handrail to stair and landings.
- Spacers, fixings and accessories necessary to complete the system.

3.7 FIXED STEEL LADDERS

Assembly

Show dimensions and arrangement (direction of flights, landing locations, etc.) on the drawings.

Materials, design and construction: To AS 1657.

Fixing: Fix ladder stiles securely to the building structure at tops and bottoms of flights, and at intermediate points.

3.8 PIPE RAIL BALUSTRADES

Determine design loads for balustrades in accordance with AS/NZS 1170.1 and AS/NZS 1170.2.

Fabrication

Method: Welding.

Joints: Produce smooth unbroken surfaces at joints. Scribe the joints between posts and rails. Make end-to-end joints over an internal sleeve.

Bends: Make changes of direction in rails by evenly curved pipe bends.

Free ends: Seal the free ends of pipes with fabricated or purpose-made end caps.

Fixing to structure

General: Provide fabricated predrilled or purpose-made brackets or post bases, and attach the piping to the building structure with fixings, including bolts into masonry anchors, and coach screws or bolts into timber, of metal compatible with the piping.

Galvanizing

General: If possible, complete fabrication before galvanizing; otherwise apply a zinc-rich primer to affected joint surfaces

Other protective coatings

General: Apply other protective coatings as documented and to the manufacturer's recommendations.

3.9 PROPRIETARY BALUSTRADES

General

Balustrades: A proprietary system, pre-assembled and fixed in place, comprising the following:

- Posts, rails and balusters.
- Infill frame and panels.
- Handrails, if required.

3.10 CAST ALUMINIUM PANELS

Panels

General: Fix ladder stiles securely to the building structure at tops and bottoms of flights, and at intermediate points. Provide and install proprietary cast aluminium decorative panels for use as balcony or stair infill panels, or other non-structural purposes such as decorative friezes and brackets.

Type of panel: [complete/delete]

Type of panel: e.g. Balcony (stair balustrade) infill, Frieze.

Location: [complete/delete]

If not shown on the drawings.

Finish: [complete/delete]

Finish: e.g. Natural aluminium, Thermoset powder coat, etc.

Fixing: Fix to the building structure or other building elements with one of the following methods:

- A proprietary mechanical fixing system of integral fixing lugs and end connections, and aluminium or stainless steel accessories.
- Aluminium to aluminium welding to AS 1665.

Or select an alternative.

3.11 CORNER GUARDS

Guards

General: Where salient corners of the structure are require protection from mechanical damage, provide metal corner guards as follows:

- Consisting of rolled angle sections or sections fabricated from metal sheet bent to the radius or angle of the corner.
- Fitting close to adjoining surface finishes.
- Solidly grouted up at the back as necessary to eliminate voids.
- Securely fixed by a method which does not cause distortion in the guard surface, and consists of either concealed built in lugs, or flush countersunk head fixings into appropriate anchors.

Location: [complete/delete]

Material: [complete/delete]

Material: e.g. Mild steel angle, Mild steel sheet, Stainless steel sheet.

Dimensions (mm):

Height: [complete/delete]

Angle leg length: [complete/delete]

Sheet thickness: [complete/delete]

Corner radius: [complete/delete]

Finish: [complete/delete]

Finish: e.g. Galvanized and/or painted.

Fixing: [complete/delete]

Fixing: e.g. Bolts, Lugs, etc.

Material: [complete/delete]

3.12 RESILIENT DOCK BUMPERS

Product

General: Provide and install a proprietary system of fabric reinforced rubber pads pressure laminated and bolted between galvanized mild steel fixing angles.

Location: [complete/delete]

Pad dimensions (mm):

Thickness: [complete/delete]

Length overall: [complete/delete]

Height: [complete/delete]

Fixing: Bolt or weld the angles to the dock structure.

3.13 COMPLETION

Cleaning

Temporary coatings: On or before completion of the works, or before joining up to other surfaces, remove all traces of temporary coatings used as a means of protection.

4 SELECTIONS

Schedules are a way of documenting a selection of proprietary or generic products or systems by their properties. Indicate their locations here and/or on the drawings. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 CON-FORM SURFACE MOUNTED PLATFORM SYSTEMS

Platform systems schedule

Property	T1	T2	T3
System type			
Size			
Start height			

T1, T2, T3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.
Edit codes in the **Schedule** to match those on drawings.
System type: Select Series1, Series 2 or Series 3.
Size: In 600 mm module size increments.
Start height: Note minimum start height requirements.

Screens and acoustic screen walls schedule

Property	T1	T2	T3
Type			
Height			
Acoustic screen			
Powdercoat colour			

T1, T2, T3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.
Edit codes in the **Schedule** to match those on drawings.
Type: Select standard screen wall or Acoustic screen wall.
Height: Select from 1200 mm, 1600 mm or 2000 mm.
Acoustic screen wall: Select from Soundshield, Peacemaker or Acoustic+.

4.2 CUSTOM-BUILT STEEL STAIRS

Custom-built steel stair components schedule

Member	Sizes (mm)
Strings	
Treads/risers	
Landing frame	
Landing deck	
Toe board	
Handrail/top rail	
Mid rail	
Posts	
Finish	

The schedule may suit a simple access stair. Vary and/or repeat the clause as required for other applications.
Materials, design and construction: Conform to the recommendations of AS 1657.
Finish: e.g. Powdercoat to *0673 Powder coatings*. Paint to the *0671 Painting* or *0345 Steel – protective paint coatings*.

4.3 PROPRIETARY STEEL STAIR SYSTEMS

Straight flight stair assembly schedule

Property	T1	T2	T3
Product			
Material			
Finish			

Circular stair assembly schedule

Property	T1	T2	T3
Product			
Diameter (mm)			
Height (mm)			
Finish			

T1, T2, T3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

Diameter and height: For helical stairs, if not shown on the drawings.

4.4 FIXED STEEL LADDERS

Fixed steel ladder component schedule

Member	Sizes (mm)
Strings	
Treads – step type	
Treads – rung type	
Landing frame	
Landing deck	
Handrail/top rail	
Posts	
Ladder cage	
Safety system	
Finish	

Treads: Edit as required.

Ladder cage: and Safety device: These are alternatives. The latter applies to rung type ladders only. Delete either or both if not required.

4.5 RETRACTABLE CEILING ACCESS STAIRS

Retractable ceiling access stair assembly schedule

Property	A1	A2	A3
Product			
Height (mm)			
Material			
Finish			
Ceiling access panel finish			

A1, A2, A3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

Check that product conforms to Work Health and Safety guidelines, as appropriate.

4.6 STEEL PLATFORMS AND WALKWAYS

Steel platform and walkway component schedule

Member	Sizes (mm)	Product	Finish
Structural frame			
Decking			
Toe board			
Handrail/top rail			
Mid rail			
Posts			

The schedule may suit a simple services platform.

Materials, design and construction: Conform to the recommendations of AS 1657.

Structural frame: Nominate here if not included in the Structural documents, otherwise delete.

4.7 BALUSTRADES

Steel balustrade components schedule

Member	Sizes (mm)	Spacing	Material/Finish
Posts			
Handrail/top rail			
Bottom rail			
Balusters			
Infill panels: Frame			
Infill panels: Panel			

Material/Finish: If steel tube state DN50 - Medium to AS 1074. If stainless steel state Nom. 50, Type 304 (or 316 in corrosive environments) to AS 1769.

Balusters/infill panel: Edit as required. If toughened glass, import text from *0467 Glass components*

Proprietary balustrade schedule

Property	A1	A2	A3
Product			
Material			
Infill panels: Frame			
Infill panels: Panel			
Finish			

A1, A2, A3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

4.8 PROPRIETARY STEEL GUARDRAILING

Steel pipe rail balustrade component schedule

The following is an example that may suit fire stair balustrades. Repeat the clause as required for other applications.

Determine design loads for balustrades in accordance with AS/NZS 1170.1 and AS/NZS 1170.2.

Member	Sizes (mm)	Spacing	Material/Finish
Posts			
Handrail/top rail			
Mid rail			

A1, A2, A3: These designate each instance or type or location of the item shcedule. Edit to align with the project's codes or tags.

Edit codes in the Schedule to match those on drawings.

Material/Finish: If steel tube state DN50 - Medium to AS 1074. If stainless steel state Nom. 50, Type 304 (or 316 in corrosive environments) to AS 1769.

Maintenance access schedule

Property	A1	A2	A3
Product			
Material			
Finish			

Design

The requirements for handrails and grabrails in AS 1428.1 could be used for general application (e.g. diameter between 30 and 50 mm). AS 1428.1 is widely cited in the BCA including for braille and tactile signage.

AS 1657 should be used for design, construction and installation of fixed platforms, walkways, stairways and ladders normally used by operating and maintenance personnel. Compliance, in certain situations, is a BCA deemed-to-satisfy requirement.

Such products designed to be attached to and supported by profiled roof sheeting may be specified in *0421 Roofing – combined* if this is preferred.

Tests for welding: It is assumed fabricated metal stairs have been documented by the Structural Consultant and *0341 Structural steelwork* would be included. If this is not the case, import tests for welding requirements from *0341 Structural steelwork*.

Metalwork standards

It is unlikely that in any architectural metalwork strict compliance with Australian standard specifications will be needed. Indeed the major metal producers have their own proprietary specifications which do not always meet Australian standard specifications in some respects but may be superior. Specifiers should endeavour to establish availability of products in the dimensions, grades and quantities required when specifying.

Glass standards

Safety glasses: Includes toughened, laminated, wired, and organic-coated glass, and safety glazing plastics. The required grade (A or B) is specified in AS 1288 Section 5 *Human impact safety requirements* for each application.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1428		Design for access and mobility
AS/NZS 1428.4.1	2009	Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
AS/NZS 1554		Structural steel welding
AS/NZS 1554.1	2014	Welding of steel structures
AS/NZS 1554.6	2012	Welding stainless steels for structural purposes
AS 1657	2018	Fixed platforms, walkways, stairways and ladders - Design, construction and installation
AS/NZS 1664		Aluminium structures
AS/NZS 1664.1	1997	Limit state design
AS/NZS 1664.2	1997	Allowable stress design
AS 1665	2004	Welding of aluminium structures
AS 1796	2001	Certification of welders and welding supervisors
AS 3978	2003	Non-destructive testing - Visual inspection of metal products and components
BCA D2.13	2016	Access and egress - Construction of exits - Goings and risers

The following documents are mentioned only in the *Guidance* text:

AS 1428.4.1	2009	Tactile ground surface indicators for the orientation of people with vision impairment
AS 1074	1989	Steel tubes and tubulars for ordinary service
AS/NZS 1167		Welding and brazing - Filler metals
AS/NZS 1167.1	2005	Filler metal for brazing and braze welding
AS/NZS 1170		Structural design actions
AS/NZS 1170.1	2002	Permanent, imposed and other actions
AS/NZS 1170.2	2011	Wind actions
AS 1288	2006	Glass in buildings - Selection and installation
AS 1428		Design for access and mobility
AS 1428.1	2009	General requirements for access - New building work
AS 1657	2013	Fixed platforms, walkways, stairways and ladders - Design, construction and installation
AS 1769	1975	Welded stainless steel tubes for plumbing applications
ASSDA	2012	Australian stainless reference manual
BCA 3.9.2	2016	Acceptable construction - Safe movement and access - Barriers and handrails
BCA D2.16	2016	Access and egress- Construction of exits - Barriers to prevent falls
NATSPEC GEN 006	2007	Product specifying and substitution
NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2018	Specifying ESD
Safe Work Australia E	2012	Controlling risks associated with electroplating
Safe Work Australia F	2013	Guide to managing risks associated with foundry work
Safe Work Australia W	2016	Welding processes - Code of practice
WTIA TN16	1985	Welding stainless steels