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| 0552P CON-FORM IN METALWORK – FABRICATED |
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Branded worksection

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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, balustrading, handrails, screens, guards, bollards, furniture, and decorative items not manufactured by Con-Form.

Background

For information on some related Work Health and Safety issues, see NOHSC Guides NOHSC Electroplating, NOHSC Foundry health hazards, and NOHSC Welding: Fumes and gases.

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 text

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Open* 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* for standards and grades of metals.
- *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 steel* 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.

Cross references

Worksections that cross reference this worksection are:

- None.

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:

Import applicable material from this worksection to *0641 Applied wall finishes* and *0551 Joinery* for metal trims and fixings.

Show the location and layout of stairs, ladders and walkways to your office documentation policy.

The *Open* text of this worksection may refer to items as being documented elsewhere in the contract documentation. If required, 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.
- Free of surface defects or distortions.

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

1.2 COMPANY CONTRACTS

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*.

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

List the worksections cross referenced by this worksection. The *0171 General requirements* worksection 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.

For design for disabled 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 1428.4-1992.

1.5 MANUFACTURER'S DOCUMENTS

Technical manuals

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

1.6 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).

Fastenings to aluminium (including aluminium alloys): Stainless steel or aluminium.

Operation and maintenance manuals

General: Submit manufacturer's recommendations for service use.

Products and materials

Manufacturer's data: Submit manufacturer's product data including standard drawings and details.

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.

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 and installers.

Delete if supplier/installer details are not required.

Tests

The 0171 General requirements worksection covers tests in **Definitions** and calls for an inspection and testing plan under **SUBMISSIONS, Tests**.

Type tests: Submit results, as follows:

- Stainless steel: Before fabrication commences, submit satisfactory evidence that relevant procedure test plates have passed the tests specified in AS/NZS 1554.6.

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

Type tests are carried out before the contract. However, submission of evidence of a successful type test may be called up here for requirements specified in **SELECTIONS** or **PRODUCTS** when there are no **SELECTIONS**.

Warranties

Requirement: Submit the Con-form 20 year warranty.

1.7 INSPECTION

Notice

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

- 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.

2 PRODUCTS

2.1 GENERAL

Product substitution

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

The 0171 General requirements worksection 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.

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 in sections of strength and stiffness suited to their required function, finish and method of fabrication.

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 Table 3.2 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 rigidity of the assembly without causing deflection or distortion of finished surfaces.

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

Fasteners

Performance: Provide non-galvanic corrosion fasteners.

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

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

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

To stainless steel: Provide appropriate stainless steel materials only.

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 visibly deforming the cross section.

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.

From AS 4100 clause 14.4.1.

Joins

General: Fit joints to an accuracy appropriate to the class of work. Finish visible joints made by 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.

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.

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, slag inclusion, 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.

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 the *0553 Stainless steel benching* worksection, for commercial kitchen benching. See also WTIA TN16. For coastal locations see ASSDA bulletin 2010 for information on the prevention of tea-staining.

Welding stainless steel

Certification of welders: To AS 1796.

Riveting

General: Riveting may be used 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

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.

Nosing strip: To BCA D2.13.

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.

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 to stair flight and landing.

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 landing.
- 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

3.9 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 either:

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

Or select an alternative.

3.10 CORNER GUARDS

Guards

General: Where salient corners of the structure are required to be protected 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 masonry 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]

3.11 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.

3.12 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

The following prompt 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.

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

Finish: e.g. Powdercoat or paint cross referred to the 0671 Painting or 0345 Steel – protective paint coatings worksections.

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

The following prompt may suit a simple services platform.

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

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

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

4.7 STEEL 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

4.8 PROPRIETARY STEEL GUARDRAILING

Maintenance access schedule

| Property | A1 | A2 | A3 |
|----------|----|----|----|
| Product | | | |
| Material | | | |
| Finish | | | |

4.9 STEEL PIPE RAIL BALUSTRADES

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 | | | |

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

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 the [0421 Roofing – combined](#) worksection if this is preferred.

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

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 in others. Specifiers should endeavour to establish availability of products in the dimensions, grades and quantities required when specifying.

Glass standards

SAA HB 125 provides information on the products available in the context of the BCA, AS 1288 and AS/NZS 2208.

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 | 2013 | 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 |
| BCA D2.13 | 2016 | Access and egress - Construction of exits - Goings and risers |

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

| | | |
|----------------------|------|--|
| 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 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 1428.4 | 1992 | Tactile ground surface indicators for the orientation of people with vision impairment |
| AS 1769 | 1975 | Welded stainless steel tubes for plumbing applications |
| AS/NZS 2208 | 1996 | Safety glazing materials in buildings |
| AS 4100 | 1998 | Steel structures |
| SAA HB 125 | 2007 | The glass and glazing handbook (including guide to AS 1288, Glass in buildings - Selection and installation) |
| 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 TR 01 | 2015 | Specifying ESD |
| NOHSC Casting | 1989 | Foundry health hazards |
| NOHSC Electroplating | 1989 | Electroplating |
| NOHSC Welding | 1990 | Welding: Fumes and gases |