

0554P MODDEX STEEL HANDRAILS, GUARDRAILS, BALUSTRADES AND OTHER BARRIERS**Branded worksection**

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Worksection abstract

This branded worksection *Template* is applicable to the design, specification, installation and maintenance of stairs, ladders, fixed platforms and walkways for commercial and industrial applications as supplied by MODDEX.

How to use this worksection

Customise this worksection *Template* for each project. See A guide to NATSPEC worksections (www.natspec.com.au) for information on *Template* structure, word styles, and completing a worksection.

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:

- 0311 Concrete formwork.
- 0312 Concrete reinforcement.
- 0314 Concrete in situ.
- 0321 Precast concrete.
- 0341 Structural steelwork.
- 0381 Structural timber for external and large timber stairs.
- 0421 Roofing – combined.
- 0467 Glass components for glass balustrades.
- 0551 Joinery.
- 0552 Metalwork - fabricated.

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

- 0344 Steel – hot-dip galvanized coatings.
- 0345 Steel – protective paint coatings for external applications.
- 0552 Metalwork - fabricated (for stainless steel finishes).
- 0612 Cementitious toppings for granolithic finish.
- 0631 Ceramic tiling.
- 0632 Stone and terrazzo tiling.
- 0651 Resilient finishes.
- 0652 Carpets.
- 0656 Floor sanding and finishing.
- 0671 Painting.

Documenting this and related work

You may document this and related work as follows:

- Provide a general arrangement of all stairs, ladders and walkways to your office documentation policy.
- Provide a general arrangement of all guardrails, handrails and balustrades to your office documentation policy. Contact MODDEX for design assistance if required.
- Coordinate this worksection with the project roofing worksection.

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

Search acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Guarantees and warranties.

Specifying ESD

The following may be specified by including additional text:

- Recycled material content.
- Recycling of offcuts or scraps.

Refer to NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

MODDEX is Australasia's leading manufacturer of innovative modular barrier systems for large-scale infrastructure and non-residential construction projects. Our extensive range of pre-engineered, proprietary handrails, balustrade and barriers systems are designed for industrial, commercial and civil applications. All our systems comply with Australian and New Zealand Standards, BCA, NZBC, DDA and WHS regulations.

MODDEX can provide a complete system design, layout and specification service including CAD drawings, detailed scope of works and estimated cost breakdown.

1.1 RESPONSIBILITIES

General

Requirement: Provide MODDEX steel handrails, guardrails, balustrades and other barriers, as documented.

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

Extent: [complete/delete]

Refer to general arrangement drawings. Include estimated quantity/ linear metres of the roof access safety system if requested.

1.2 DESIGN

This worksection can be used to document the contractor's design and documentation responsibilities in addition to those set out in DESIGN in 0171 General requirements. If the design, or completion of the design, is not the responsibility of the contractor, delete this clause and associated requirements.

Refer to NATSPEC TECHreport TR 03 on specifying design and construct for mechanical services. It discusses some of the issues and presents a range of approaches for preparing design and construct specifications that can be applied more generally.

General

Designer: [complete/delete]

Nominate the designer e.g. Registered architect, Professional engineer, Equipment supplier.

Requirements

Responsibility: [complete/delete]

For example, responsibility for design coordination.

Performance requirement: Conform to MODDEX's specification sheets including the following:

- Maximum stanchion spacing.
- Mount dimensions and fixing details to the substrate.

A structural engineer may need to confirm the suitability of the structure or substrate for the required fixings.

Authority requirements: [complete/delete]

In particular, draw attention to any specific requirements of the DA and other regulatory bodies. Consider attaching DA conditions, if appropriate. Nominate if any part of the design is a NCC performance solution.

Access criteria: [complete/delete]

Select from the following:

- All gutters or service edges.
- Roof lights or skylights.
- Roof mounted mechanical plant.
- Roof areas within 2.0 m of a fall hazard not otherwise protected by parapets or guardrails.
- (For MODDEX guardrails) Stairs and ramps, and areas where the change in level exceeds 1.0 m. e.g. retaining walls.

Edit as appropriate. Delete if fully documented in the drawings.

Document fall protection to these areas in the 0193 Building access safety systems worksection.

1.3 COMPANY CONTACTS

MODDEX technical contacts

Website: www.moddex.com/contact-us.

MODDEX have a team of technical experts able to provide design, compliance and specification support.

1.4 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.

1.5 STANDARDS

General

Access for maintenance: To AS 1657 (2018).

Access for people with a disability: To the NCC cited AS 1428.1 (2009).

The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).

For barriers to prevent falls including balustrades for Class 1 and Class 10 buildings, see BCA (2022) H5D3, for Class 2 to 9 buildings, see BCA (2022) D3D17. For handrails for Class 2 to 9 buildings, see BCA (2022) D3D22.

Structural design action: To AS/NZS 1170.1 (2002).

Structural bridge design: To AS 5100.2 (2017) clause 12.5.

Tactile indicators: To AS/NZS 1428.4.1 (2009).

The NCC cites AS 1428.4 (1992) and AS/NZS 1428.4.1 (2009). The current edition is AS/NZS 1428.4.1 (2009).

1.6 MANUFACTURER'S DOCUMENTS

MODDEX technical manuals

Products: www.moddex.com/products.

Specification sheet downloads: moddex.com/resources/downloads/.

1.7 SUBMISSIONS

Certificate

Requirement: Submit installation compliance certificate for the installed system from a MODDEX recommended installer.

Provision of an installation compliance certificate by the installer relies on the adequacy of the structure and conformity to MODDEX's specification sheets and test compliance certificates as relevant for the system.

Products and materials

Manufacturer's documentation: Submit manufacturer's data including the following:

- Product data sheets.
- Installation and maintenance recommendations.

Type test: Submit results, as follows:

- Guardrail and balustrade systems: To AS 1657 (2018).

Type tests are carried out off-site. 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.

Evidence of delivery: Submit delivery docket as evidence of delivery of [complete/delete]

If evidence of delivery to site is required for particular products, consider including this *Optional* style text by changing to *Normal* style.

Operation and maintenance manuals

Requirement: Submit manual to **COMPLETION, Operation and maintenance manuals**.

Records

Requirement: Submit as-built documentation from a MODDEX recommended installer.

Shop drawings

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

- Overall and detail dimensions, including stanchion spacing.
- Mount dimensions and fixing details to the substrate.
- Details of fabrication and components.
- Details of fabrication involving other trades or components.

e.g. stairs, platforms, walkways.

- 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

Requirement: Submit evidence of MODDEX approved installer.

Substrate acceptance: Submit evidence of installer's acceptance of the substrate, including load capacity, before starting installation.

The installer may require confirmation from a structural engineer that the structure or substrate is suitable for fixing.

Warranties

Requirement: Submit warranties to **COMPLETION, Warranties.**

2 PRODUCTS

Edit, by deletion, the following list of products as appropriate for the project. Make sure the project critical dimensions, number of items and their locations are documented.

2.1 GENERAL**Product substitution**

Other products: Conform to **SUBSTITUTIONS** in *0171 General requirements*.

SUBSTITUTIONS in *0171 General requirements* 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

General: Store and handle to the manufacturer's recommendations and as follows:

- Protect materials from damage.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

2.2 MODDEX BARRIER SYSTEMS**General**

Description: Heavy duty no-weld pedestrian and property protection barrier systems comprising posts, rails, balustrades and connectors for ground level protection of workplace and public thoroughfares including disabled assistance and bikeway protection.

Access for maintenance: To AS 1657 (2018).

Balustrading: To BCA (2022) D3D17.

Handrails: To BCA (2022) D3D22.

Balustrading and handrails for people with a disability: To the NCC cited AS 1428.1 (2009) and AS 1428.2 (1992).

The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).

Bikeway barriers: To Austroads AGRD06A (2017).

Galvanized coating: To AS/NZS 4680 (2006).

Structural design: To AS/NZS 1170.1 (2002).

Contact MODDEX for evidence of conformity to the product standards including test compliance certificates.

Assistrail® disability handrails

Assistrail® handrail systems: moddex.com/products/assistrail-disability-handrails/.

Description: Engineered for ramps, stairs and walkways, with smooth connections for a safer finish. Standard and fire stair configurations available.

Material - Tubular sections: G390 hot-dip galvanized steel.

Material - Connector/clamps: Cast iron, steel or aluminium with stainless steel clamp locking screws.

Product: [complete/delete]

Select from:

- Assistrail® AR10 Single inline handrail for level and stairs. AS 1428 compliant.
- Assistrail® AR20 Single inline handrail with kerbrail for level and ramp. AS 1428 compliant.
- Assistrail® AR30 Single inline handrail with midrail for level and stair. AS 1428 compliant.
- Assistrail® AR40 Single inline handrail with midrail and kerbrail for level and ramp. AS 1428 compliant.
- Assistrail® AR45 Single inline handrail with mid and bottom rail for level and stair. AS 1428 compliant.
- Assistrail® AR50 Single offset handrail / On Hob for level and stair. AS 1428 compliant.
- Assistrail® AR60 Single offset handrail with kerbrail for level and ramp. AS 1428 compliant.
- Assistrail® AR70 Single offset handrail with midrail for level and stair. AS 1428 compliant.
- Assistrail® AR80 Single offset handrail with midrail and kerbrail for level and ramp. AS 1428 compliant.
- Assistrail® AR110 Double offset handrails / On Hob for level and stair. AS 1428 compliant.
- Assistrail® AR120 Double offset handrails with kerbrail for level and ramp. AS 1428 compliant.
- Assistrail® AR130 Twin offset handrails for level and stair. AS 1428 compliant.
- Assistrail® AR140 Twin double offset handrails for stair. AS 1428 compliant.
- Assistrail® AR150 Single offset handrail / Wall Mounted for level, ramp and stair. AS 1428 compliant.
- Assistrail® AR160 Double offset handrails / Wall Mounted for level, ramp and stair. AS 1428 compliant.

Mount type: [complete/delete]

Select from the following:

- T: Top mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- F: Face mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- C11/13: Channel mount, Steel using M16 hi-tensile galvanized bolts.
- GD: In-ground mount, as per engineer's specifications.
- CD: Cored mount, cored and grouted as per engineer's specifications.
- AM: Angle mount. Concrete using M12 x 100 galvanized screwbolts/Steel using M16 hi-tensile galvanized bolts.

Kerbrail: [complete/delete]

Select from G390 hot-dip galvanized steel, Marine grade stainless steel or Marine grade structural aluminium.

Select galvanized finish (as supplied) or nominate powder coating and colour.

Bikesafe® bikeway barriers

Bikesafe® barrier systems: moddex.com/products/bikesafe-bikeway-barriers/.

Description: Engineered for bikeway and footpath safety, providing the ultimate protection for pedestrians and cyclists travelling at speed.

Material – Tubular sections: G390 hot-dip galvanized steel.

Material – Connector/clamps: Cast iron, steel or aluminium with stainless steel clamp locking screws.

Product: [complete/delete]

Select from:

- Bikesafe® BS20 Bikeway barrier with offset top rail and midrail for level and rake. Austroads compliant.
- Bikesafe® BS25 Bikeway barrier with offset top rail and handrail for level and rake. Austroads compliant.
- Bikesafe® BS30 Bikeway barrier with offset top rail, mid and bottom rail for level and rake. Austroads compliant.
- Bikesafe® BS35 Bikeway barrier with offset top rail, handrail and bottom rail for level and rake. Austroads compliant.
- Bikesafe® BS40 Bikeway barrier with offset top rail and balustrade infill for level and rake. Austroads compliant.
- Bikesafe® BS45 Bikeway barrier with offset top rail, handrail and balustrade infill for level and rake. Austroads compliant.

Mount type: [complete/delete]

Select from the following:

- T: Top mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- F: Face mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- C11/13: Channel mount, Steel using M16 hi-tensile galvanized bolts.
- GD: In-ground mount, to engineer's specifications.
- CD: Cored mount, cored and grouted to engineer's specifications.

Finish: [complete/delete]

Select galvanized finish (as supplied) or nominate powder coating and colour.

Bridgerail™ bridge rail barriers

Bridgerail™ barrier systems: moddex.com/products/bridgerail-bridge-barriers/.

Description: Prevents injuries or falls from elevated pedestrian access pathways, cycle paths and service areas adjacent to roads. Standard and raked configurations available.

Material – Tubular sections: Hot-dip galvanized steel.

Material – Connector/clamps: Cast iron or steel with stainless steel clamp locking screws.

Product: [complete/delete]

Select from:

- Bridgerail™ BR10 Offset cycle rail. Bridgerail™ BR10: Top rail, base plate and stanchion. Designed and tested for conformance to AS 5100.2 (2017) clause 12.5 (a) and (c).
- Bridgerail™ BR20 Balustrade for level. Standard 1.5 m spacing.
- Bridgerail™ BR20M Balustrade with mesh for level. Standard 1.5 m spacing.
- Bridgerail™ BR40 Balustrade with offset cycle rail for level. Standard 2.0 m spacing.
- Bridgerail™ BR45 Balustrade with offset cycle rail and handrail for level. Standard 2.0 m spacing.
- Bridgerail™ BR45: Top rail, handrail, base plate, stanchion and balustrade infill. Designed and tested for conformance to AS 5100.2 (2017) clause 12.5 (a) and (c).

Conectabal® commercial balustrades

Conectabal® balustrade systems: moddex.com/products/conectabal-commercial-balustrades/.

Description: Prevents injuries or falls from retaining walls, elevated areas, ramps and stairs. Standard and fire stair configurations available.

Material – Tubular sections: G390 hot-dip galvanized steel and/or marine grade aluminium.

Material – Connector/clamps: Cast iron, steel or aluminium with stainless steel clamp locking screws.

Material – Kerbrail (where documented): Marine grade structural aluminium.

Product: [complete/delete]

Select from:

- Conectabal® CB10 Standard Balustrade for level and rake. NCC compliant.
- Conectabal® CB10 Wave Balustrade for level and rake. NCC compliant.
- Conectabal® CB20 Balustrade with kerbrail for level and rake. NCC compliant.
- Conectabal® CB30 Balustrade with single inline handrail for level and stair. NCC compliant.
- Conectabal® CB35 Balustrade with single inline handrail and kerbrail for level and rake. NCC compliant.
- Conectabal® CB40 Balustrade with single offset handrail for level and stair. NCC compliant.

- Conectabal® CB45 Balustrade with single offset handrail and kerbrail for level and rake. NCC compliant.
- Conectabal® CB50 Balustrade with double offset handrails for level and rake. NCC compliant.
- Conectabal® CB55 Balustrade with double offset handrails and kerbrail for level and rake. NCC compliant.

Mount type: [complete/delete]

Select from the following:

- T: Top mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- F: Face mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- C11/13: Channel mount, Steel using M16 hi-tensile galvanized bolts.
- GD: In-ground mount, to engineer's specifications.
- CD: Cored mount, cored and grouted to engineer's specifications.
- AM: Angle mount. Concrete using M12 x 100 galvanized screwbolts/Steel using M16 Hi-tensile galvanized bolts.

Finish: [complete/delete]

Select galvanized finish (as supplied), or nominate powder coating and colour.

Tuffrail® industrial handrails-guardrails

Tuffrail® industrial handrail-guardrail systems: moddex.com/products/tuffrail-industrial-handrails/.

Description: Robust handrail-guardrail protection for workers across mezzanines, service platforms, pedestrian walkways and fall edges. Safety yellow options available.

Material – Tubular sections: G390 hot-dip galvanized steel, Type 316 stainless steel or marine grade aluminium.

Material selection is dependent on the documented product selection.

Material – Connector/clamps: Cast iron, steel or aluminium with stainless steel clamp locking screws.

Material selection is dependent on the documented product selection.

Material – Toeboard (where documented): Magnelis, marine grade stainless steel or marine grade structural aluminium.

Product: [complete/delete]

Select from:

- Tuffrail® TR10 Single top rail for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR20 Top and midrail for level, rake and stair. AS 1657 (2018) compliant.
- Tuffrail TR25 Top and midrail with toeboard for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR30 Top, mid and bottom rail for level, rake and stair. AS 1657 (2018) compliant.
- Tuffrail® TR10.Y Yellow, single top rail for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR20.Y Yellow, top and midrail for level, rake and stair AS 1657 (2018) compliant.
- Tuffrail® TR25.Y Yellow, top and midrail with toeboard for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR30.Y Yellow, top, mid and bottom rail for level, rake and stair. AS 1657 (2018) compliant.
- Tuffrail® TR10.A Aluminium, single top rail for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR20.A Aluminium, top and midrail for level, rake and stair AS 1657 (2018) compliant.
- Tuffrail® TR25.A Aluminium, top and midrail with toeboard for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR30.A Aluminium, top, mid and bottom rail for level, rake and stair. AS 1657 (2018) compliant.
- Tuffrail® TR10.S 316 Stainless Steel, single top rail for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR20.S 316 Stainless Steel, top and midrail for level, rake and stair AS 1657 (2018) compliant.
- Tuffrail® TR25.S 316 Stainless Steel, top and midrail with toeboard for level and rake. AS 1657 (2018) compliant.
- Tuffrail® TR30.S 316 Stainless Steel, top, mid and bottom rail for level, rake and stair. AS 1657 (2018) compliant.

Mount type: [complete/delete]

Select from the following:

- T: Top mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- F: Face mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- C11/13: Channel mount, Steel using M16 hi-tensile galvanized bolts.
- GD: In-ground mount, to engineer's specifications.
- CD: Cored mount, cored and grouted to engineer's specifications.

- AM: Angle mount, Concrete using M12 x 100 galvanized screwbolts/Steel using M16 hi-tensile galvanized bolts.

Toeboard: [complete/delete]

Select from Magnelis, Marine grade stainless steel or Marine grade structural aluminium.

Finish: [complete/delete]

Select galvanized, aluminium or stainless steel finish (as supplied), or nominate powder coating and colour.

Ezibilt® trolley bays

Ezibilt® modular trolley bays: moddex.com/products/ezibilt-trolley-bays/.

Description: Secure storage for trolleys at shopping complexes and airports.

Material – Tubular sections: G390 hot-dip galvanized steel.

Material – Connector/clamps: Cast iron, steel or aluminium with stainless steel clamp locking screws.

Trolley bay: [complete/delete]

Select from:

- Ezibilt® EB10 Trolley bay – Single.
- Ezibilt® EB10.W Trolley bay – Single - wide.
- Ezibilt® EB15 Trolley bay – Single - back to back.
- Ezibilt® EB15.W Trolley bay – Single - back to back - wide.
- Ezibilt® EB20 Trolley bay – Double.
- Ezibilt® EB20.W Trolley bay – Double - wide.
- Ezibilt® EB25 Trolley bay – Double - back to back.
- Ezibilt® EB25.W Trolley bay – Double - back to back - wide.
- Ezibilt® EB30 Trolley bay – Triple.
- Ezibilt® EB30.W Trolley bay – Triple - wide.
- Ezibilt® EB35 Trolley bay – Triple - back to back.
- Ezibilt® EB35.W Trolley bay – Triple - back to back - wide.
- Ezibilt® EB40 Trolley bay – Four corral.
- Ezibilt® EB40.W Trolley bay – Four corral - wide.
- Ezibilt® EB60 Trolley bay – Six corral.
- Ezibilt® EB60.W Trolley bay – Six corral - wide.
- Ezibilt® EB80 Trolley bay – Eight corral.
- Ezibilt® EB80.W Trolley bay – Eight corral - wide.
- Ezibilt® EB01 Single sided signboard kit.
- Ezibilt® EB02 Double sided signboard kit.

Mount type: [complete/delete]

Select from the following:

- T: Top mount, Concrete using M12 x 120 stud anchors/Steel using M16 hi-tensile galvanized bolts.
- GD: In-ground mount, to engineer's specifications.
- CD: Cored mount, cored and grouted to engineer's specifications.

Finish: [complete/delete]

Select galvanized finish (as supplied) or nominate powder coating and colour.

2.3 MODDEX SAFETY ACCESSORIES

General

Description: Surface products used for pedestrian safety in all public locations such as stairways, ramps, escalators and platforms.

Tactile indicators: To AS/NZS 1428.4.1 (2009).

The NCC cites AS 1428.4 (1992) and AS/NZS 1428.4.1 (2009). The current edition is AS/NZS 1428.4.1 (2009).

Slip resistance: To AS 4586 (2013).

Intac® tactile indicators

Intac® surface tactile indicators: moddex.com/products/intac-tactile-indicators/.

Description: Tactile indicators for ramps, stairs and walkways for the blind or visually impaired. Ceramic tile or self-adhesive PVC options available.

Material: PVC-U or ceramic.

Product: [complete/delete]

Select from:

- Intac® IN101 PVC fastile hazard tactile 300 x 300 mm – black. AS 1428 compliant.
- Intac® IN103 PVC fastile hazard tactile 300 x 300 mm – yellow. AS 1428 compliant.
- Intac® IN151 PVC fastile directional tactile 300 x 150 mm – black. AS 1428 compliant.
- Intac® IN153 PVC fastile directional tactile 300 x 150 mm – yellow. AS 1428 compliant.

3 EXECUTION

3.1 INSTALLATION

General

Requirement: To MODDEX's recommendations using MODDEX approved installers for installation.

Fixing

Requirement: Fix to the structure with documented mounts and/or brackets.

Confirm with the structural engineer.

3.2 TRAINING

General

Requirement: Provide training in the safe use and maintenance of the system to all users.

3.3 COMPLETION

Cleaning

Temporary coatings: Before completion, or before joining up to other surfaces, remove all temporary coatings used for protection.

Operation and maintenance manuals

Requirement: Prepare a manual that includes the manufacturer's published recommendations for service use.

Compliance with this clause targets the Operations and Maintenance requirement within the Minimum Expectation level of the Verification and Handover credit in Green Star Buildings (2021).

Warranties

Requirement: Warrant as follows:

- Product warranty by MODDEX.
- Installed system warranty by a MODDEX recommended installer.

4 SELECTIONS

Schedules are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system's location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 MODDEX ACCESS SYSTEMS

MODDEX access systems schedule

	A	B	C
Assistrail® Disability Handrails			
Bikesafe® Bikeway Barriers			
Bridgerail™ Barriers			
Conectabal® Commercial Balustrades			
Tuffrail® Industrial Guardrails			
Ezibilt® Trolley Bays			

	A	B	C
Intac® Tactile Indicators			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Design

The requirements for handrails and grabrails in AS 1428.1 (2009) could be used for general application (e.g. diameter between 30 and 50 mm). The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).

AS 1657 (2018) 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 NCC 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 that 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.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS/NZS 1170		Structural design actions
AS/NZS 1170.1	2002	Permanent, imposed and other actions
AS 1428		Design for access and mobility
AS 1428.1	2009	General requirements for access - New building work
AS 1428.2	1992	Enhanced and additional requirements - Buildings and facilities
AS/NZS 1428.4.1	2009	Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
AS 1657	2018	Fixed platforms, walkways, stairways and ladders - Design, construction and installation
AS 4586	2013	Slip resistance classification of new pedestrian surface materials
AS/NZS 4680	2006	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
AS 5100		Bridge design
AS 5100.2	2017	Design loads
BCA D3D17	2022	Access and egress - Construction of exits - Barriers to prevent falls
BCA D3D22	2022	Access and egress - Construction of exits - Handrails
Austrroads AGRD		Guide to road design
Austrroads AGRD06A	2017	Paths for walking and cycling

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

AS 1428		Design for access and mobility
AS 1428.1	2001	General requirements for access - New building work
AS 1428.1	2021	General requirements for access - New building work
AS 1428.4	1992	Tactile ground surface indicators for the orientation of people with vision impairment
BCA H5D3	2022	Class 1 and 10 buildings - Safe movement and access - Barriers and handrails
GBCA Buildings	2021	Green Star Buildings
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 024		Using NATSPEC selections schedules
NATSPEC TR 01		Specifying ESD
NATSPEC TR 03		Specifying design and construct for mechanical services