

4852ME MODDEX EXTERIOR HANDRAILS, GRABRAILS & BALUSTRADES

1. GENERAL

If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.

The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.

This section relates to the fabrication and installation of **Moddex NZ LP** exterior handrails, grab rail and balustrade systems.

It includes;

- disability handrails
- industrial handrails and guardrails
- commercial and industrial balustrades
- bikeway barriers
- trolley bays
- toeboard / kerbrail systems
- associated components and accessories necessary to complete the installation

Modify / expand this clause to suit requirements of the final version of the section.

Documents

1.1 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC B1/VM1	Structure
NZBC D1/AS1	Accessible routes
NZBC F4/AS1	Safety from falling
AS/NZS 1428.4	Design for access and mobility - Part 4.1: Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
NZS/AS 1657	Fixed platforms, walkways, stairways and ladders. Design, construction and installation
NZS 4121	Design for access and mobility: Buildings and associated facilities
AS/NZS 4994.1	Temporary edge protection - Part 1: General requirements
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
AS/NZS 1170.1	Structural design actions - Permanent, imposed and other actions

Delete from the DOCUMENTS clause any document not cited. List any additional cited documents. The following are related documents and if referred to in the work section need to be added to the list of DOCUMENTS.

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1.2 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:

Moddex Product Manual
Moddex Installation Guide
Moddex Product Specification Sheets
Moddex Systems Mechanical Load Testing Reports prepared by Melbourne Testing Services (MTS) dated 24 November 2018
Moddex Care & Maintenance Manual

List documents relating to this part of the work, i.e. technical product/system specifications, test reports, appraisals, certification, etc. Normally they will be referred to in the text by the abbreviated title.

Manufacturer/supplier contact details

Company: **Moddex NZ Limited Partnership**

Web: www.moddex.com

Email: info@moddex.co.nz

Telephone: 0800 663 339

It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular

manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.

Warranties

- 1.3 **WARRANTY - MANUFACTURER/SUPPLIER**
Provide a material manufacturer/supplier warranty:
5 years For Moddex handrail, grab rail and balustrade systems and products
10 or 20 years: For powder coat colours and powder coating, dependent on product application and environment
Refer to powder coating manufacturer for warranty details and conditions

- Provide this warranty on the Moddex NZ LP standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

- 1.4 **WARRANTY - INSTALLER/APPLICATOR**
Provide an installer/applicator warranty:
2 years For installation of Moddex handrail, grab rail and balustrade systems

- Provide this warranty on the installer's standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

- 1.5 **QUALIFICATIONS**
Installers to be experienced in the installation of Moddex handrail, grab rail and balustrade systems and approved by Moddex. If requested provide evidence of qualification / experience prior to commencing work.

- 1.6 **NO SUBSTITUTIONS**
Substitutions are not permitted to any of the Moddex specified systems, components and associated products listed in this section.

- 1.7 **MODDEX FIXING METHODS**
Contact Moddex for advice on site specific fixing methods to suit Moddex handrail, grab rail and balustrade systems and project application.

Compliance information

- 1.8 **INFORMATION REQUIRED FOR CODE COMPLIANCE**
Provide the following compliance documentation:
- Installer's - PS3 (workmanship guarantee)
- Producer Statement PS1- Design by the manufacturer
List the Producer Statements - Construction (PS3) required from installers that are required as a condition of carrying out this work.
Producer Statement - Standard PS1 or Site Specific PS1 Design (PS1) may be required where certain design work is undertaken by the Contractor or manufacturer / importer / distributor.

Performance - Wind

Moddex handrail, grabrail and balustrade systems are SED (Specific Engineering Design) and have been tested in accordance with AS/NZS1170.1

- 1.9 **DESIGN PARAMETERS WIND**
Design to be in accordance with the manufacturer's requirements and as appropriate for the project wind design stated in the general section 1220 PROJECT. Contact Moddex for site specific details and advice. Special design parameters require approval by Moddex's Structural Engineer.

NOTE: Contact Moddex for site specific details and advice for EH wind Zones. The Moddex system has been tested for wind up to Very High (50m/s).

Performance - handrails, guardrails and balustrades

1.10 DESIGN PARAMETERS FOR ACCESS ROUTES & MOBILITY - BUILDINGS & ASSOCIATED FACILITIES

Design of handrails to be in accordance with the requirements of [NZBC D1/AS1](#), 6.0 **Handrails** and [NZS 4121](#).

Compliance with NZBC D1/AS1 covers the requirements for the design of handrails on access routes (including ramps, stairs and walkways) between buildings. NZS 4121 sets out the requirements for the design of buildings, facilities within buildings, driveways, car parks, passages within and between complexes and developments, and any landscaping and access ways for use of people with disabilities.

2. PRODUCTS

Materials - disability handrails

2.1 DISABILITY HANDRAILS - ASSISTRAIL®

Assistrail® Disability Handrail comprised of hot dipped galvanized steel 48.3mm OD stanchions and rails and 5mm thick clamp fittings. Manufactured and load tested to [NZS/AS 1657](#) and [AS/NZS 1170.1](#) as modified by [NZBC B1/VM1](#). Components galvanized to [AS/NZS 4680](#). Powder coat and paint finish options available. AR range consists of 15 configurations with single and double rail options incorporating midrails and kerbrail, base and wall mounted.

Designed for use across ramps, stairs and walkways. A modular system with no-weld assembly.

Refer to SELECTIONS for options.

Note: Moddex Assistrail® Top Mount Guardrail complies with selected loading performance criteria in accordance with AS/NZS 1170.1, Table 3.3. for categories A, B, E and C3.

Suitable for access ramps and stairs, fire and access stairs, schools and universities, safety railing for mezzanines, aged care and accommodation, hospitals and medical facilities, public transport, and community and recreation centres.

Materials - industrial handrails & guardrails

2.2 INDUSTRIAL HANDRAILS - TUFFRAIL®

Tuffrail® Industrial Handrail comprised of hot dipped galvanized steel or marine grade structural aluminium 6101-T6 48.3mm OD stanchions and rails and 5mm thick clamp fittings. Manufactured and load tested to [NZS/AS 1657](#) and [AS/NZS 4994.1](#).

Components galvanized to [AS/NZS 4680](#). Powder coat finish, and Safety Yellow coated steel options available. TR range consists of 4 (x3) configurations with single top rail, top and mid rail, top, mid and bottom rail options incorporating toeboard, base and wall/side mounted. Designed to protect workers across mezzanines, stairs, service platforms, walkways and fall edges. A modular system with no-weld assembly.

Refer to SELECTIONS for options.

Suitable for service platforms, roof service areas and fall edges, mezzanines, warehouses and loading bays, airports and shopping centres, retaining walls and culverts, coastal and high corrosion applications, pedestrian pathways and footbridges, carparks and community centres.

Materials - commercial & industrial balustrades

2.3 COMMERCIAL BALUSTRADES - CONNECTABAL®

Connectabal® Commercial Balustrade comprised of hot dipped galvanized steel 48.3mm OD stanchions and rails, 12mm or 16mm balusters at 100mm centres and 5mm thick clamp fittings. Manufactured and load tested to [NZS/AS 1657](#) and selective load tested to [AS/NZS 1170.1](#) as modified by [NZBC B1/VM1](#). Complies with [NZBC F4/AS1](#) (balustrade options). Components galvanized to [AS/NZS 4680](#). Powder coat or paint finish options available. CB range consists of 8 configurations with standard balustrade, single and double inline handrail and kerbrail options, and a range of mounting options.

A modular system with no-weld assembly.

Refer to SELECTIONS for options.

Note: Moddex Connectabal® complies with selected loading performance criteria in accordance with AS/NZS 1170.1, Table 3.3.

Suitable for retaining walls and car parks, access ramps and stairs, accommodation units, sports and recreation centres, public transport, fire and access stairs, footbridges and culverts, loading bays and mezzanines.

Materials - bikeway barriers

- 2.4 BIKEWAY BARRIERS - BIKESAFE®
Bikesafe® Bikeway Barrier comprised of hot dipped galvanized steel 48.3mm OD stanchions and rails, 12mm or 16mm balusters at 100mm centres (on some models) and 5mm thick clamp fittings. Manufactured and load tested to [NZS/AS 1657](#) and selective load tested to [AS/NZS 1170.1](#) as modified by [NZBC B1/VM1](#). Complies with [NZBC F4/AS1](#) (balustrade options). Components galvanized to [AS/NZS 4680](#). BS range consists of 6 configurations with top rail and mid rail / handrail and bottom rail and balustrade infill options, and a range of mounting options. Powder coat or paint options available. Designed to protect cyclists when travelling at speed. A modular system with no-weld assembly.
Refer to SELECTIONS for options.
Suitable for shared pedestrian paths, protection over culverts, footbridges.

Materials - safety bollards

- 2.5 SAFETY BOLLARDS - TUFFSTOP®
Tuffstop® Safety Bollard comprised of hot dipped galvanized steel bollard and base plate, available in a range of diameters (125NB to 200NB) and height, 1050mm or 1300mm. Components galvanized to [AS/NZS 4680](#). Powder coat finish (yellow) and custom colour options available. TS range consists of 8 configurations with in ground and top mounting. Designed for pedestrian safety, equipment protection, vehicle designation and traffic guide for parking lots.
Refer to SELECTIONS for options.
Suitable for warehouses and loading bays, pedestrian pathways and shopping centres, vehicle designation and protection, sports and recreation centres.

Materials - trolley bays

- 2.6 TROLLEY BAYS - EZIBILT®
Ezibilt® Trolley Bay comprised of hot dipped galvanized steel 48.3mm OD stanchions and rails and 5mm thick clamp fittings. Components galvanized to [AS/NZS 4680](#). Powder coat or paint finish options available. TS range consists of 9 configurations with 920mm high single, double, triple, 4, 6 and 8 bay back-to-back trolley options, base mounted. Available in a range of widths and lengths. Designed to provide secure storage of trolleys at shopping centres and airports. A modular system with no-weld assembly.
Refer to SELECTIONS for options.
Suitable for shopping centres, airports and storage.

Materials - toeboard systems

- 2.7 TOEBOARD SYSTEM - TUFFGARD®
Tuffgard® Toeboard Systems, incorporated into Tuffrail® Industrial Handrail configurations comprised of hot dipped galvanized steel 48.3mm OD stanchions and rails and 5mm thick clamp fittings. Manufactured and load tested to [NZS/AS 1657](#) and [AS/NZS 4994.1](#). Components galvanized to [AS/NZS 4680](#). Powder coat or paint finish options available. TR range consists of 3 configurations with top and mid rail options, hot dipped galvanized steel, marine grade aluminium or 316 stainless steel toeboards. Available in a range of mounting options. A modular system with no-weld assembly.
Refer to SELECTIONS for options.
Suitable for loading bays and mezzanines, industrial walkways and platforms, mines and manufacturing facilities, commercial and industrial buildings.

Materials - kerbrail systems

- 2.8 **KERBRAIL SYSTEM - FLEXALYTE®**
 Flexalyte® Kerbrail Systems, incorporated into Assistrail® Disability Handrail and Connectabal® Commercial Balustrade configurations comprised of hot dipped galvanized steel 48.3mm OD stanchions and rails and 5mm thick clamp fittings. Manufactured and load tested to [NZS/AS 1657](#), [AS/NZS 4994.1](#) and [AS/NZS 1170.1](#) as modified by [NZBC B1/VM1](#). Complies with [NZBC F4/AS1](#) (balustrade options). Powder coat or paint finish options available. AR range consists of 9 configurations with top and mid rail, standard balustrade, single and double inline handrail options, and aluminium extruded kerbrail (with EPDM separation pads). Available in a range of mounting options. Designed for use across disability ramps transitions and walkways. A modular system with no-weld assembly.
 Refer to SELECTIONS for options.
Suitable for access ramps and stairs, sports and recreation centres, public transport, community and commercial buildings, hospitals, schools and universities, retail complexes and car parks, accommodation units.

- 2.9 **FIXINGS - CONCRETE SUBSTRATE**
 Moddex system fixings for stanchions and clamp fittings:
- | | |
|------------------------------|--|
| Stanchions fixed to concrete | M12 galvanized mechanical concrete anchor |
| Clamp locking screws | M12 x 1.75 x 11mm DEXX Drive stainless steel (410 S21) |

- 2.10 **FIXINGS - STEEL SUBSTRATE**
 Moddex system fixings for stanchions and clamp fittings:
- | | |
|--------------------------------------|--|
| Stanchions fixed to structural steel | M16 galvanized high tensile bolt set |
| Clamp locking screws | M12 x 1.75 x 11mm DEXX Drive stainless steel (410 S21) |

Accessories

- 2.11 **TACTILE INDICATORS - INTAC®**
 Moddex Intac® Tactile Indicators manufactured from UV resistant PVC with self-adhesive backing for installation. Complies with [AS/NZS 1428.4](#). Provides walkway or directional guidance for the blind or visually impaired. Available in directional and hazard designs and a range of colours, yellow standard.
 Refer to SELECTIONS for options.
Suitable for access ramps and stairs, public walkways and thoroughfares, railway platforms and traffic crossings, escalators and shopping centres, car parks, sport and recreation centres.

Finishes

- 2.12 **POWDER COATING**
 Single coat polyester based powder coating for use on Moddex systems and components. Refer to SELECTIONS for system and colour.
- 2.13 **PAINT FINISH**
 Refer to appropriate painting section(s) for paint finishes to Moddex components.

3. EXECUTION

Conditions

- 3.1 **DELIVERY, STORAGE & HANDLING OF PRODUCTS**
 Refer to 1270 CONSTRUCTION for requirements relating to delivery, storage and handling of products.
 Note: Products delivered to site flat packed.
Use this standard generic clause and if appropriate add additional special requirements.
- 3.2 **ROUTINE MATTERS**
 Refer to 1250 TEMPORARY WORKS & SERVICES for protection requirements.
 Refer to 1270 CONSTRUCTION for requirements relating to defective or damaged work, removal of protection and cleaning.
Use this standard generic clause and if appropriate add additional special requirements.

- 3.3 PRE-INSTALLATION REQUIREMENTS
Check work previously carried out or existing substrates and confirm it is of the required standard for this part of the work.
- 3.4 INSTALLATION - GENERAL
Install Moddex systems to Moddex Installation Guide and [NZS/AS 1657](#).
Installer to compile a handover pack comprised of care and maintenance manual, product certificates and warranty documentation, and forward it to the contract administrator on completion of the contract works.
Refer to Moddex website for installation guide.
- Installation - Moddex systems**
- 3.5 INSTALLATION - SAFETY RECOMMENDATIONS
Installer to be conversant with the safety recommendations contained in Moddex Installation Guide before commencing any work.
Refer to Moddex website for installation guide and safety recommendations.
- 3.6 INSTALLATION REQUIREMENTS
Installation requirements to be as follows:
- Ensure all cut pipe ends are checked and any burrs removed
 - Apply cold galvanized rust inhibitor paint to all cut and/or unprotected pipe ends
 - Ensure locking setscrews are adequately tightened and rails not deformed (30Nm max torque for M12 DEXX and 40Nm torque for 9mm BSP)
 - When installing double Assistrail (AR120 etc) be sure to fix the top rail first (the lower/bottom rail will restrict access to fixings)
 - Ensure setscrews are facing the same way for better presentation
 - Cut off any excess threads of fixings on base mounts (5mm maximum protruding) and apply cold galvanized paint
 - Remove any paint marks/writing on pipe using suitable solvent or brake cleaner. Touch up any scratches or markings using colour coded touch up paint for powder coated applications
- 3.7 INSTALLATION CHECKLIST
Installer to fill out the Installation Checklist supplied by Moddex on completion of installation and forward it to the contract administrator.
Installation Checklist available on Moddex website - Installation Guide.
- 3.8 INSTALLATION - KEY MEASUREMENTS
Key measurements for installation of systems to be in accordance with Moddex Installation Guide and [NZBC F4/AS1, 1.0 Barriers in Buildings](#).
Key measurements include:
- height of top rail
 - top and mid rail spacing
 - stanchion spacings - maximum 2000mm
 - openings in balustrade
 - hand clearance
 - height above stair nosing
 - edge above stair nosing
 - edge distance of fixings
 - minimum rail insertion - 30mm for horizontal or angled rails
 - rivets for internally connecting fittings
- Note: preassembled stanchions will be supplied by Moddex at height specific to the application.*
- 3.9 SCREWBOLT INSTALLATION - CONCRETE SUBSTRATE
Install M12 Screwbolt to concrete substrate strictly in accordance installation instructions specified in Moddex Installation Guide.

Finishes - application

- 3.10 APPLY POWDER COATING
Apply powder coatings to the recommended average thickness specified for the selected powder coating on all Moddex components.
Pre-treatment to manufacturer's recommendation.

Completion

- 3.11 COMPLETION MATTERS
Refer to 1270 CONSTRUCTION for completion requirements and if required commissioning requirements.
Use this standard generic clause and if appropriate add additional special requirements.

4. SELECTIONS

For further details on selections go to www.moddex.com
Substitutions are not permitted to the following, unless stated otherwise.
If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.

Select the options to suit the project and delete options not specified.

Materials - disability handrails

4.1 MODDEX DISABILITY HANDRAILS - ASSISTRAIL®

Location: ~
Brand/Type: Moddex Disability Handrails - Assistrail®
Structure/substrate: ~
Configuration: AR~
Mounting type: ~
Finish/colour: ~

Options:
Structure/fixing: Concrete or steel
Configuration:
AR10 Single Inline Handrail for stairs and level applications under 1m (FFL)
AR20 Single Inline Handrail / Kerbrail for disabled ramps under 1m (FFL)
AR30 Single Inline / Midrail for stairs and level applications under 1m (FFL) and midrail for extra protection
AR40 Single Inline Handrail / Midrail & Kerbrail for disabled ramps under 1m (FFL) and midrail for extra protection
AR45 Single Inline Handrail / Midrail & Bottom Rails for stairs and level applications under 1m (FFL) and typical fire stair applications
AR50 Single Offset Handrail / On Hob for stairs and level applications under 1m (FFL) with offset (often used on concrete hobs)
AR60 Single Offset Handrail / Kerbrail for disabled ramps under 1m (FFL) with offset
AR70 Single Offset Handrail / Midrail for level, ramp and stair applications under 1m (FFL) and midrail for extra protection
AR80 Single Offset Handrail / Midrail and Kerbrail for disabled ramps under 1m (FFL) with offset and mid rail for extra protection
AR110 Double Offset Handrail / On Hob
AR120 Double Offset Handrail / Kerbrail
AR130 Twin Offset Handrail for centre of a wide stair
AR140 Twin Double Offset Handrail
AR150 Single Offset Handrail / Wall Mounted for level, ramp and stair applications with suitable substrate for mounting
AR160 Double Offset Handrail / Wall Mounted for level, ramp and stair applications with suitable substrate

Mounting type:
T2 - Top Mount (2 fixings)
T4 - Top Mount (4 fixings)
F2 - Face Mount (2 fixings)
C11 - Channel Mount (2 fixings)
C13 - Channel Mount (2 fixings)
GD - Inground Mount
CD- Cored Mount
AM - Angle Mount (2 fixings)
CY - Conveyor Mount (2 fixings)

Finish/colour:
Hot-dip galvanized standard, or
Powder coat finishes, refer to powder coat manufacturer for colour range
Paint finishes, refer to the appropriate paint section(s) for selection

Materials - industrial handrails & guardrails

- 4.2 MODDEX INDUSTRIAL HANDRAILS - TUFFRAIL®
- Location: ~
- Brand/Type: Moddex Industrial Handrails -Tuffrail®
- Structure/substrate: ~
- Configuration: TR~
- Mounting type: ~
- Finish/colour: ~
- Options:*
- Structure/fixing::* Concrete or steel
- Configuration:* TR10 Single Toprail for level or rake applications
TR20 Toprail & Midrail for level, rake or stair applications
TR25 Top & Midrail / Toeboard for level or rake applications
TR30 Top / Mid & Bottom Rails for level, rake or stair applications
TR10A (aluminium) Single Top Rail for level or rake applications (featuring Aluminium clamp fittings)
TR20A (aluminium) Toprail & Midrail for level, rake or stair applications (featuring Aluminium clamp fittings)
TR25A (aluminium) Top & Midrail / Toeboard for level or rake applications (featuring Aluminium clamp fittings)
TR30A (aluminium) Top / Mid & Bottom Rails for level, rake or stair applications (featuring Aluminium clamp fittings)
TR10.Y Top / Mid & Bottom Rails for level, rake or stair applications (Safety Yellow coated)
TR20.Y Toprail & Midrail for level, rake or stair applications (Safety Yellow coated)
TR25Y Top & Midrail / Toeboard for level or rake applications (Safety Yellow coated)
TR30.Y Top / Mid & Bottom Rails for level, rake or stair applications (Safety Yellow coated)
- Mounting type:* T2 - Top Mount (2 fixings)
T4 - Top Mount (4 fixings)
F2 - Face Mount (2 fixings)
C11 - Channel Mount (2 fixings)
C13 - Channel Mount (2 fixings)
GD - Inground Mount
CD- Cored Mount
AM - Angle Mount (2 fixings)
CY - Conveyor Mount (2 fixings)
- Finish/colour:* Hot-dip galvanized standard, or aluminium
Powder coat finishes, refer to powder coat manufacturer for colour range, or
Paint finishes, refer to the appropriate paint section(s) for selection or
Y models - Safety Yellow coated steel finish

Materials - commercial & industrial balustrades

- 4.3 MODDEX COMMERCIAL BALUSTRADES - CONNECTABAL®
- Location: ~
- Brand/Type: Moddex Commercial Balustrades -Connectabal®
- Structure/substrate: ~
- Configuration: CB~
- Mounting type: ~
- Finish/colour: ~
- Options:*
- Structure/fixing::* Concrete or steel
- Configuration:* CB10 - Standard Balustrade for level applications, greater than 1m (FFL)
CB10 - Wave Balustrade for level applications, greater than 1m (FFL)
CB20 - Balustrade with kerbrail for level applications, greater than 1m (FFL)
CB30 - Balustrade single inline handrail for level and stair applications, greater than 1m (FFL)
CB35 - Balustrade single inline handrail and kerbrail for level and ramp applications, greater than 1m (FFL)
CB40 - Balustrade with single offset handrail for level and stair applications, greater than 1m (FFL)
CB45 - Balustrade with single offset handrail and kerbrail for level and ramp applications, greater than 1m (FFL)

CB50 - Balustrade with double offset handrail used for primary schools
CB55- Balustrade with double offset handrail used for primary schools
 Mounting type: *T2 - Top Mount (2 fixings)*
T4 - Top Mount (4 fixings)
F2 - Face Mount (2 fixings)
C11 - Channel Mount (2 fixings)
C13 - Channel Mount (2 fixings)
GD - Inground Mount
CD- Cored Mount
AM - Angle Mount (2 fixings)
CY - Conveyor Mount (2 fixings)
 Finish/colour: *Hot-dip galvanized standard, or*
Powder coat finishes, refer to powder coat manufacturer for colour range, or
Paint finishes, refer to the appropriate paint section(s) for selection

Materials - bikeway barriers

4.4 MODDEX BIKEWAY BARRIERS - BIKESAFE®

Location: ~
 Brand/Type: Moddex Bikeway Barriers -Bikesafe®
 Structure/substrate: ~
 Configuration: CB~
 Mounting type: ~
 Finish/colour: ~
 Options:
 Structure/fixing: *Concrete or steel*
 Configuration: *BS20 - Bikeway barrier with offset top rail and midrail for level and rake*
BS25 - Bikeway barrier with offset top rail and handrail for level and rake
BS30 - Bikeway barrier with offset top, mid and bottom rail for level and rake
BS35 - Bikeway barrier with offset top rail, offset handrail and bottom rail for level and rake
BS40 - Bikeway barrier with offset top rail and balustrade infill for level and rake
BS45 - Bikeway barrier with offset top rail, handrail and balustrade infill for level and rake
 Mounting type: *T4 - Top Mount (4 fixings)*
GD - Inground Mount
CD - Cored Mount
 Finish/colour: *Hot-dip galvanized standard, or*
Powder coat finishes, refer to powder coat manufacturer for colour range, or
Paint finishes, refer to the appropriate paint section(s) for selection

Materials - safety bollards

4.5 MODDEX SAFETY BOLLARDS - TUFFSTOP®

Location: ~
 Brand/Type: Moddex Safety Bollards -Tuffstop®
 Structure/substrate: Concrete
 Configuration: TS~
 Mounting type: ~
 Finish/colour: ~
 Options:
 Configuration: *TS530.0900.T4 90NB Top Mount Bollard*
TS530Y.0900.T4 90NB Top Mount Bollard, Yellow
TS550.1050.T4 125NB Top Mount Bollard
TS550Y.1050.T4 125NB Top Mount Bollard, Yellow
TS550Y.1300.T4 125NB Top Mount Bollard, Yellow
TS560Y.1050.T4 150NB Top Mount Bollard
TS560Y.1050.T4 150NB Top Mount Bollard, Yellow
TS530.0900.GD 90NB Inground Mount Bollard
TS530Y.0900.GD 90NB Inground Mount Bollard, Yellow
TS550.1050.GD 125NB Inground Mount Bollard
TS550Y.1050.GD 125NB Inground Mount Bollard Yellow
TS550.1300.GD125NB Inground Mount Bollard, Yellow
TS560.1050.GD 150NB Inground Mount Bollard
TS560Y.1050.GD 150NB Inground Mount Bollard Yellow
 Mounting type: *T4 - Top Mount (4 fixings)*
GD - Inground Mount

*Finish/colour: Hot-dip galvanized standard, or
Powder coat finishes, refer to powder coat manufacturer for colour range, or
Paint finishes, refer to the appropriate paint section(s) for selection or
Y models - Safety Yellow coated steel finish*

Materials - trolley bays

4.6 MODDEX TROLLEY BAYS - EZIBILT®

Location: ~
Brand/Type: Moddex Trolley Bays - Ezibilt®
Structure/substrate: Concrete
Configuration: TS~
Mounting type: ~
Finish/colour: ~
Options:
*Configuration: TS10 Trolley Bay - Single Bay
TS10 Trolley Bay - Single Bay, wide
TS15 Trolley Bay - Single Bay, back to back
TS15 Trolley Bay - Single Bay, back to back, wide
TS20 Trolley Bay - Double Bay, back to back
TS20 Trolley Bay - Double Bay, back to back, wide
TS25 Trolley Bay - Double Bay
TS25 Trolley Bay - Double Bay, wide
TS30 Trolley Bay - Triple Bay
TS30 Trolley Bay - Triple Bay, wide
TS35 Trolley Bay - Triple Bay, back to back
TS35 Trolley Bay - Triple Bay, back to back, wide
TS40 Trolley Bay - 4 Bay Corral
TS40 Trolley Bay - 4 Bay Corral, wide
TS60 Trolley Bay - 6 Bay Corral
TS60 Trolley Bay - 6 Bay Corral, wide
TS80 Trolley Bay - 8 Bay Corral
TS80 Trolley Bay - 8 Bay Corral, wide*
Mounting type: T2- Top Mount (2 fixings)
*Finish/colour: Hot-dip galvanized standard, or
Powder coat finishes, refer to powder coat manufacturer for colour range, or
Paint finishes, refer to the appropriate paint section(s) for selection*

Materials - toeboard systems

4.7 MODDEX TOEBOARD SYSTEM - TUFFGARD®

Location: ~
Brand/Type: Moddex Toeboard System -Tuffgard®
Structure/substrate: ~
Configuration: TR~
Toeboard type: ~
Mounting type: ~
Finish/colour: ~
Options:
Structure/substrate: Concrete or steel
*Configuration: TR25 Top & Midrail / Toeboard for level or rake applications
TR25A (aluminium) Top & Midrail / Toeboard for level or rake applications
(featuring Aluminium clamp fittings)
TR25.Y Top & Midrail / Toeboard for level or rake applications (Safety Yellow
coated)*
*Toeboard type: MD415 marine grade aluminium
MD515 hot-dip galvanized steel
MD516 316 stainless steel*
*Mounting type: T2 - Top Mount (2 fixings)
F2 - Face Mount (2 fixings)
CL- Channel Mount (2 fixings)
GD - Inground Mount
CD- Cored Mount
AM - Angle Mount (2 fixings)*
*Finish/colour: Hot-dip galvanized standard, or
Powder coat finishes, refer to powder coat manufacturer for colour range, or
Paint finishes, refer to the appropriate paint section(s) for selection or
Y models - Safety Yellow coated steel finish*

Materials - kerbrail systems

4.8 MODDEX KERBRAIL SYSTEMS - FLEXALYTE®

Location:	~
Brand/Type:	Moddex Kerbrail Systems - Flexalyte®
Structure/substrate:	~
Configuration:	~
Kerbrail type:	Aluminium extrusion (with EPDM separation pads)
Mounting type:	~
Finish/colour:	~
<i>Options:</i>	
<i>Structure/substrate:</i>	<i>Concrete or steel</i>
<i>Configuration;</i>	<i>AR20 Single Inline handrail with kerbrail for level and rake AR40 Single Inline handrail with kerbrail for level and rake AR60 Single offset handrail for level and rake AR80 Single offset handrail with midrail and kerbrail for level and rake AR120 Double offset handrails with kerbrail for level and rake CB20 Balustrade with toeboard for level and rake CB35 Balustrade with inline handrail and kerbrail for level and rake CB45 Balustrade with offset handrail and kerbrail for level and rake CB55 Balustrade with double offset handrails and kerbrail for level and rake</i>
<i>Mounting type:</i>	<i>T2 - Top Mount (2 fixings) F2 - Face Mount (2 fixings) CL - Channel Mount (2 fixings) GD - Inground Mount CD- Cored Mount AM - Angle Mount (2 fixings)</i>
<i>Finish/colour:</i>	<i>Hot-dip galvanized standard, or Powder coat finishes, refer to powder coat manufacturer for colour range, or Paint finishes, refer to the appropriate paint section(s) for selection</i>

Accessories

4.9 MODDEX TACTILE INDICATORS - INTAC®

Location:	~
Brand/Type:	Moddex Tactile Indicators - Intac®
Structure/substrate:	~
Configuration:	~
Fixing:	Self-adhesive
Colour:	~
<i>Options:</i>	
<i>Structure/substrate:</i>	<i>Concrete or steel</i>
<i>Configuration:</i>	<i>PVC Hazard Tactile Indicator 300mm x 300mm or PVC Directional Tactile Indicator 300mm x 150mm</i>
<i>Colour:</i>	<i>Silver, Yellow, Black, White, Blue, Beige, Grey, Red, Green or Gold</i>