BR10 Bridgerail™ Bridge Rail Barrier Specifications

BRIDGERAIL™ AS5100.2 CL12.5 and NZTA Compliant Offset Cycle Rail

Level - Standard 2.0 Mtr Spacing

Key features

- Modular flexibility
- No-weld assembly
- Flat pack delivery
- Reduced corrosion
- Colour options
- BIM & CAD Support

Applications suited to

- Cycle paths and bikeways
- Shared pedestrian paths
- Protection over culverts
- Footbridges
- Refer to applicable Aust and NZ Standards and Building Codes.

Specification Summary

Supply and install the proprietary Bridgerail™ BR10 barrier system to substrate according to Moddex specifications, or by a Moddex accredited installer.

Design Life

Standard design life of barrier is 100 years in C2 corrosivity zones.

Technical Data

Material

Stanchions, rails & balustrades	Steel/grade 250 & C350
Clamp fittings	Ductile iron
Clamp locking screws	Stainless steel (304)

Protective coating

Stanchions, rails and balustrades	G390 Hot-dip Galvanized (min 390g/m^2)
Clamp fittings	Hot-dip Galvanized with patented protective coating on threads
Optional	Powder coating and paint specs

*The standard process for Powder Coated and Painted handrail products is as follows: black steel is used for fabrication. The steel is sand blasted and a zinc primer coating is applied. The powder coat / paint coat is then applied over the zinc primer creating a dual shield coating with a decorative finish.

Dimensions

Variable depending on building/application/code

Stanchions

Dimensions	370mm high
Nominal Thickness	16.0 mm plate

Rails

Diameter	60.3mm OD
Nominal Thickness	4.5mm

Base Plate

Nominal Thickness	16.0mm

Clamp fittings

Thickness	5.0mm (approx)
Locking screws	M12 x 1.75 x 11mm - DEXX® Drive

Expansion Joint

Diameter	48mm
Length	300.0mm
Material	Steel Hollow Bar

Weight

Variable depending on building/application/code

2.0m spacing	41kg

Fixings

Stanchion attachment to

Concrete	M16 mechanical concrete anchors or cast in studs/ ferrules as specified.
Structural steel	M16 galvanized high tensile bolt set

*Other Fixing options are available on request

Compliance

Moddex balustrades and handrails are designed and manufactured in accordance with Austroads Guide to Road Design, relevant statutory WHS Codes of Practice/ Guidelines, including AS5100.2.2017 CL12.5*. and the NZTA Bridge Manual B6.4**. Galvanized to AS 4792 and AS/NZS 4680:2006 (where applicable).

The manufacture of Bridgerail proprietary systems is in accordance with Moddex specifications and manufacturing processes, and this may differ to some jurisdictional specifications for steelwork fabrication, bridges and related structures.

* Forces from wind load, water and debris or earthquakes are to be determined by the bridge designer/engineer. The bridge designer/ engineer must request and confirm (not assume) adequacy for these projects specific requirements, before specifying or approving this barrier system for use.

**Excluding where the road controlling authority requires the barrier to restrain crowds orpeople under panic conditions

Testing

Stringent vibration endurance tests have been performed and independent testing has been carried out to confirm the suitability of the Moddex system in maritime conditions.

Warranty

5 years from date of purchase subject to correct installation, use and maintenance in accordance with manufacturer's specifications and recommendations, unless otherwise negotiated at the time of purchase.

— Refer maintenance manual

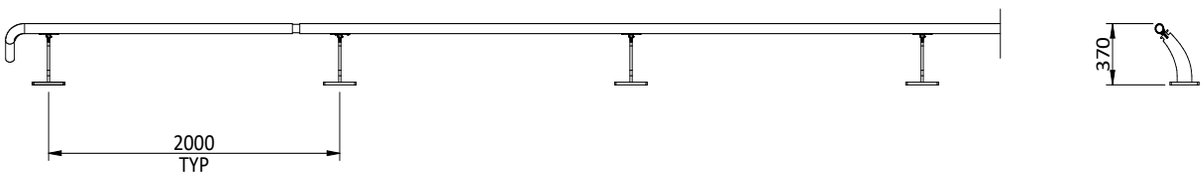
Inspection & Maintenance

Visual inspection for any damage or loose fixings must be done periodically and prior to use. No certified maintenance required. Basic wear and tear preventative maintenance is recommended, as per manufacturer's specifications and recommendations.

— Refer maintenance manual

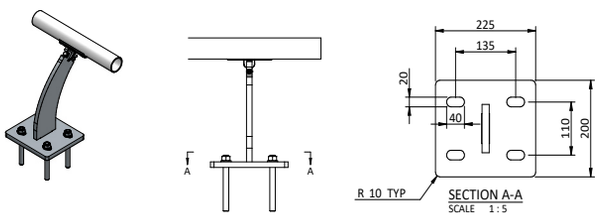
BR10

Technical Information

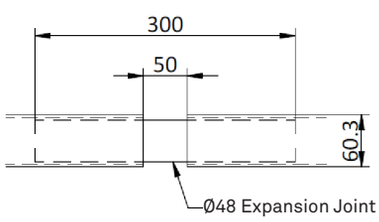


Mount Dimensions

T4 - Top Mount (4 Fixings)



Expansion Detail



Standard References

Austroads Guide To Road Design; Part 6A

5.5.3 The installation of a fence at the side of a path used by cyclists is desirable where:

there is a steep batter or large vertical drop located in close proximity to the path
the path is adjacent to an arterial road and it is necessary wto restrict cyclist access to the road
a bridge or culvert exists on a path
a hazard exists adjacent to a particular bicycle facility
cyclists are likely to be 'blazing a separate trail' at an intersection between paths or around a path terminal.

Australian Standard Bridge Design; Part 2

This Standard was prepared by the Standards Australia Committee BD-090, Bridge Design, to supersede AS 5100.2—2004.
This Standard is also designated as Austroads publication AP-G51.2-17.

The objectives of the AS(AS/NZS) 5100 series are to provide nationally acceptable requirements for—

(a) the design of road, rail, pedestrian and cyclist path bridges;
(b) the specific application of concrete, steel, timber and composite construction, which embody principles that may be applied to other materials in association with relevant standards;
(c) the assessment of the load capacity of existing bridges; and
(d) the strengthening and rehabilitation of existing bridges.

The objective of this Part (AS 5100.2) is to specify minimum design loads and load effects for road, rail, pedestrian and cyclist path bridges, and other associated structures.
The requirements of the AS(AS/NZS) 5100 series are based on the principles of structural mechanics and knowledge of material properties, for both the conceptual and detailed design, to achieve acceptable probabilities that the bridge or associated structure being designed will not become unfit for use during its design life.

NZTA Bridge Manual Clause B6.4*

Pedestrian, cyclist and equestrian barriers shall be designed for the most extreme of the following loads:

a. horizontal and vertical service loads of 1.75kN/m applied to the top rail
b. a horizontal service load of 1.5kN/m ² applied to the gross area of the barrier
c. a point load of 0.5kN in any direction at any point.

*Excluding where the road controlling authority requires the barrier to restrain crowds or people under panic conditions

For information or technical support please contact us
T 1800 663 339 (AU)
T 0800 663 339 (NZ)

moddex.com

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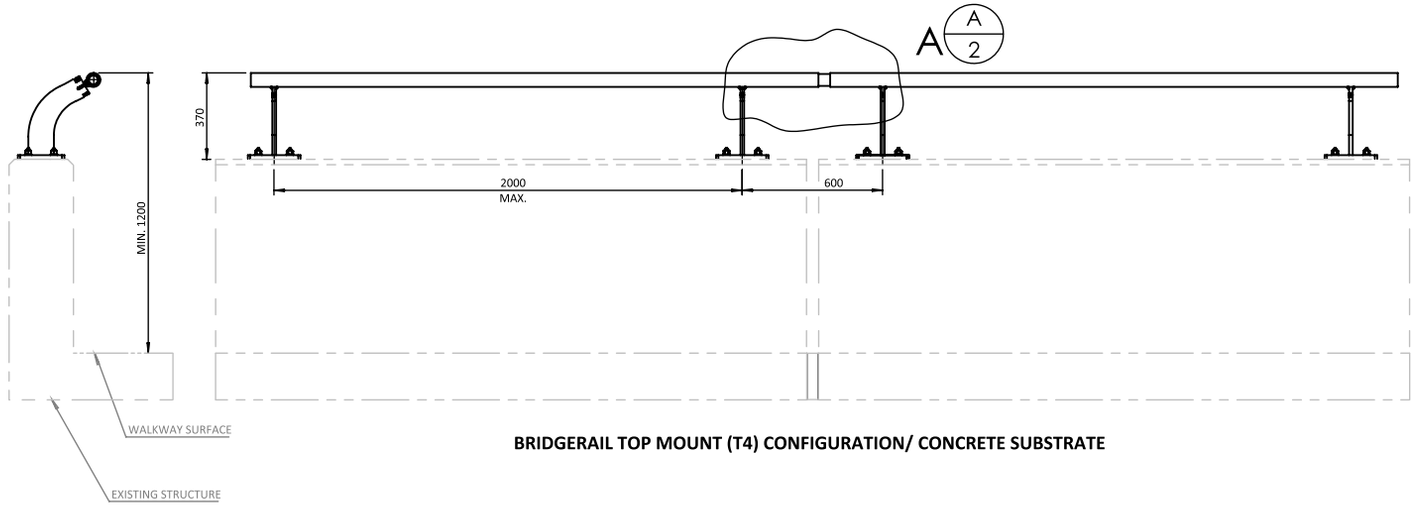
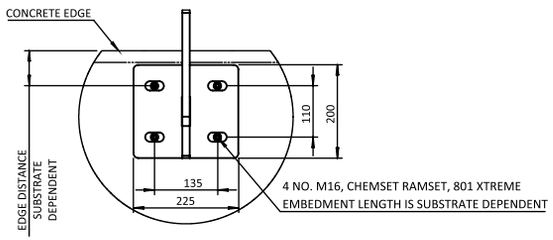


BRIDGERAIL TOP MOUNT (T4) CONFIGURATION/ CONCRETE SUBSTRATE



T4/ F4 MOUNT STANDARD SPEC.
CUSTOM MOUNT IS AVAILABLE.

MODDEX DOCUMENT No. BR10

General NOTES:

1.THESE SPECIFICATIONS SHALL TAKE PRECEDENCE UNLESS OTHERWISE ADVISED BY THE DESIGN ENGINEER,
2. ALL WORK AND MATERIALS SHALL COMPLY WITH THE BUILDING ACT & REGULATIONS,
3. THE STRUCTURE DESIGNER IS RESPONSIBLE FOR ENSURING THE NECESSARY SUPPORTING STRUCTURE IS PROVIDED FOR THE BARRIER SYSTEM,
4. FORCES FROM WIND LOAD, WATER AND DEBRIES SHALL BE DETERMINED BY THE BRIDGE DESIGNER/ ENGINEER. OTHERWISE, THEY WILL BE ASSUMED AS NEGLIGIBLE LOADS COMPARED TO OTHER LOADS FROM CLAUSES (a) TO (c).
5. THE SUPPORTING STRUCTURE SHALL BE DESIGNED FOR THE MINIMUM DESIGN LOADS SPECIFIED IN THE DESIGN TABLE & FIXING NOTE
6. THE SUPPORTING STRUCTURE SHALL BE DESIGNED TO ACCOMMODATE THE SPECIFIED HANDRAIL FIXINGS,
7. ALL WELDS TO BE IN ACCORDANCE WITH MODDEX WPS1 AND/OR AS1554.1SP.
8. ALL COMPONENTS OF THE MODDEX WALKWAY AND/ OR BARRIER SYSTEM INCLUDING, FIXINGS SHALL BE SUPPLIED BY MODDEX AU.

DESIGN TABLE:

1. DESIGN LIFE	100 YEARS IN C2 CORROSIVE ZONE
2. LOADING	AS5100.2, CLAUSE 12.5, NORMAL LOAD
3. LIVE LOADING	0.75kN/m LONGITUDINAL & TRANSVERSE (SIMULTANEOUSLY) ON TOP RAIL 1.0kPa TRANSVERSE ON INFILL AREA GLE LOAD OF 0.6kN ACTING OVER AREA OF 0.1mX0.1M TRANSVERSE AWAY FROM THE PATH ON INFILL AREA

SYSTEM COULD BE MODIFIED TO ACCOMODATE AS5100.2, CLAUSE 12.5 (A) TO (D) FOR CROWD LOADS.

REV.	CHANGE DESCRIPTION	BY	DATE
2	HEIGHT NOTE MODIFIED	AM	15/03/2022
1	MODDEX DATA REVIEW/UPDATE	AM	21/09/2021

MODDEX GROUP Pty Ltd
44 Kalman Drive
Boronia VIC 3155

DESIGNED	AM	15/02/2020
DRAWN	AM	21/09/2021
CHECKED	JDR	15/03/2022
APPROVED	DAV	15/03/2022
SCALE	NOT TO SCALE	A3

MODDEX
BR10 BridgeRail Barrier Specification

DRAWING No. **BR10**

ASSEMBLY

MATERIAL: AS SPECIFIED | **FINISH:** HDG- ZINC *(POWDER COATED AVAILABLE)* | **UNIT:** METRIC | **LAST SAVED BY:** AM- 15/03/2022

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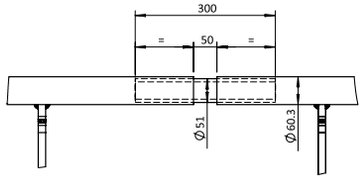
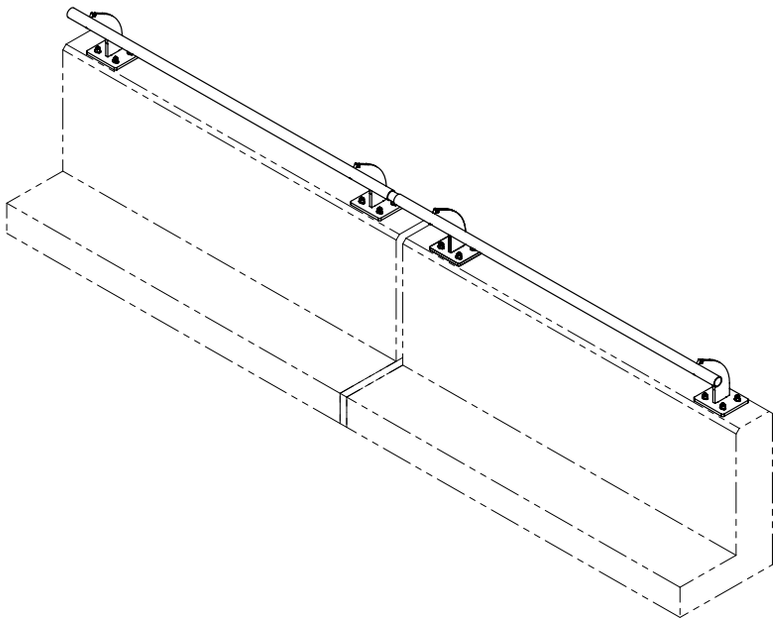
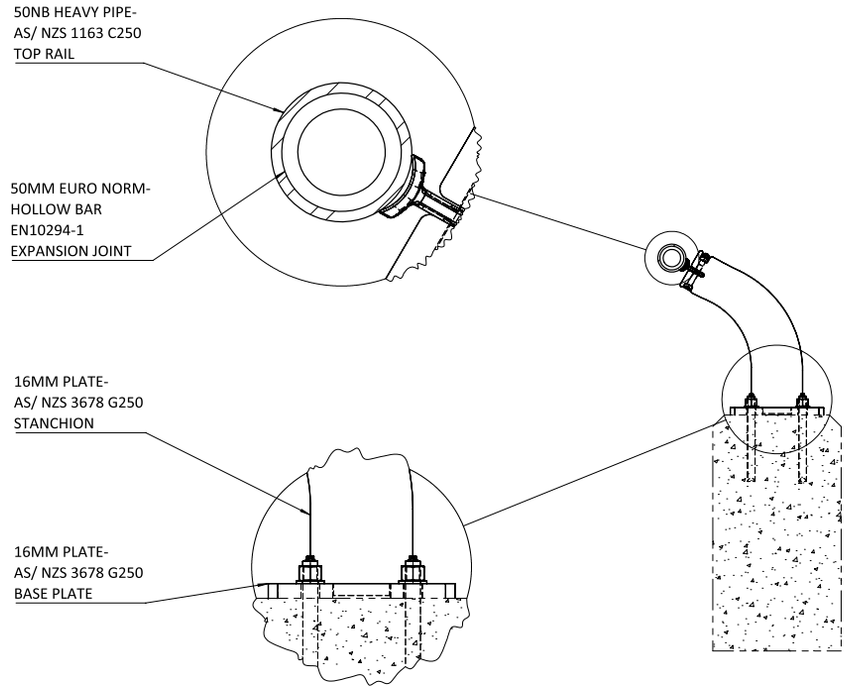
Bridge Rail Barrier Specifications



EXPANSION JOINT DETAILS
DETAIL A
SCALE 1 : 10





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