

DOLRE LOW STRESS TL4 BARRIER

REVISION REGISTER

Revision	Description	Date
1	Issued for use.	30/06/2020

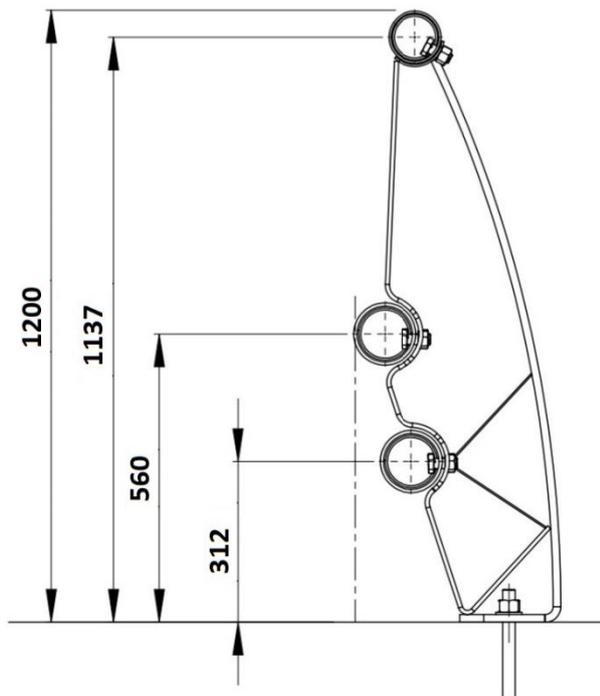
DOLRE Low Stress TL4 Barrier is a semi-rigid steel rail barrier system that is accepted for use by Main Roads. The DOLRE Low Stress TL4 Barrier has been crash tested to EN 1317 containment level H2 (i.e. tests TB 11 and TB 51). Computer simulation has been undertaken to model its performance during MASH Test Level 4 impacts.

Identification Photographs:



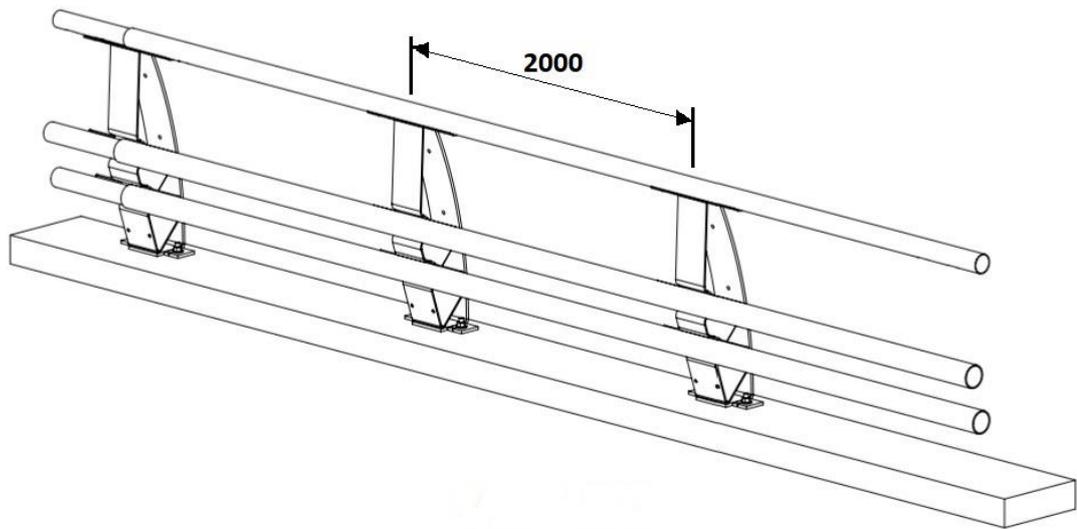
Front View

Drawings:



Typical Cross Section

DOLRE LOW STRESS TL4 BARRIER



Isometric View

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Supplier: LB Australia Pty Ltd
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Accepted Containment Level:
MASH TL 4 (i.e. 10 000kg vehicle).

Configuration:

The DOLRE Low Stress TL4 Barrier consists of 2# 120mm nominal dia. steel lower rails and 1# 100mm nominal dia. steel hand rail, which are attached to welded steel posts at 2000mm centres. The rails are 6.0m nominal length and sections joined by bolted connecting sleeves. The system is 0.4m wide.

Each welded steel post is anchored to a concrete base / footing.

Unless stated in this document the installation shall be in accordance with the DOLRE Installation Instructions (Version DOLRE 161124o V05 Ind.J) available on the LB Australia Pty Ltd website.

Design Considerations:

Test Deflection:

0.98m under EN 1317 TB51 conditions (13000 kg vehicle at 70 km/hr at 20° impact angle). This deflection is the minimum to be used in MASH TL 4 conditions.

Note that this deflection was measured in a crash test performed under controlled conditions. The deflection value is the horizontal offset between the face of the barrier measured prior to and following vehicle impact. Designers should be aware that the deflection figure published may not be the deflection value achieved in the field for all impacts by errant vehicles.

For other speeds refer to Supplier.

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Working Width:

1.33m under EN 1317 TB51 conditions (13000 kg vehicle at 70 km/hr at 20° impact angle). This working width is the minimum to be used in MASH TL 4 conditions.

Note that this working width was measured in a crash test performed under controlled conditions. The working width value is the horizontal offset between the face of the barrier measured prior to vehicle impact and the maximum lateral position of any major part of the system or vehicle after impact. Designers should be aware that the working width figure published may not be the working width value achieved in the field for all impacts by errant vehicles.

For other speeds refer to Supplier.

Minimum Length:

The minimum length of DOLRE Low Stress TL4 Barrier is 60m (terminal lengths not included).

Offset from Kerbing:

The DOLRE Low Stress TL4 Barrier is a proprietary system that was crash tested to EN 1317 as a bridge parapet. When crash tested, the barrier was connected to a continuous concrete beam that replicated a kerb on a bridge. The vertical face of the continuous concrete beam was located close to the traffic face of the barrier.

Designers are referred to the MRWA Supplement to Austroads Guide to Road Design Part 6, section 6.3.5. Given the height of the DOLRE Low Stress TL4 Barrier it is recommended that, as an absolute minimum, the offsets to concrete barrier are adopted.

Approach to barrier:

The approach to the barrier should be a trafficable running surface at a slope of 1 in 10 or flatter clear of objects and grade changes to allow an errant vehicle to hit the barrier at an appropriate height.

End Treatments:

There are no end treatments approved for connection to the DOLRE Low Stress TL4 Barrier.

The DOLRE Low Stress TL4 Barrier may be transitioned to thrie beam.

Limitations:

- The DOLRE Low Stress TL4 Barrier may only be specified as a road safety barrier at locations that are approved by the Main Roads WA Road and Traffic Engineering Branch.
- The DOLRE Low Stress TL4 Barrier is a proprietary system that was crash tested to EN 1317 as a bridge parapet. For crash testing the barrier was connected to a continuous concrete beam 0.50m wide and 1.45m deep. Each welded post was connected to the concrete beam by 2# M24 x 215mm long threaded studs sealed with chemical resin (HILTI HIT-RE 100).
- Transition from DOLRE Low Stress TL4 Barrier to Thrie beam must be in accordance with details provided by LB Australia and based on drawing numbers D07-01017/07 and D07-01018/07, which may be accessed on the LB Australia website.

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- The barrier shall be installed and repaired after impact in accordance with the DOLRE Installation Instructions (Version DOLRE 161124o V05 Ind.J) available on the LB Australia Pty Ltd website.

References:

Item	Description
1	Barrier system information can be found on Main Roads file 20/4023.

Manuals

Available on the LB Australia website.

Relevant FHWA Approval Letters:

Not applicable