

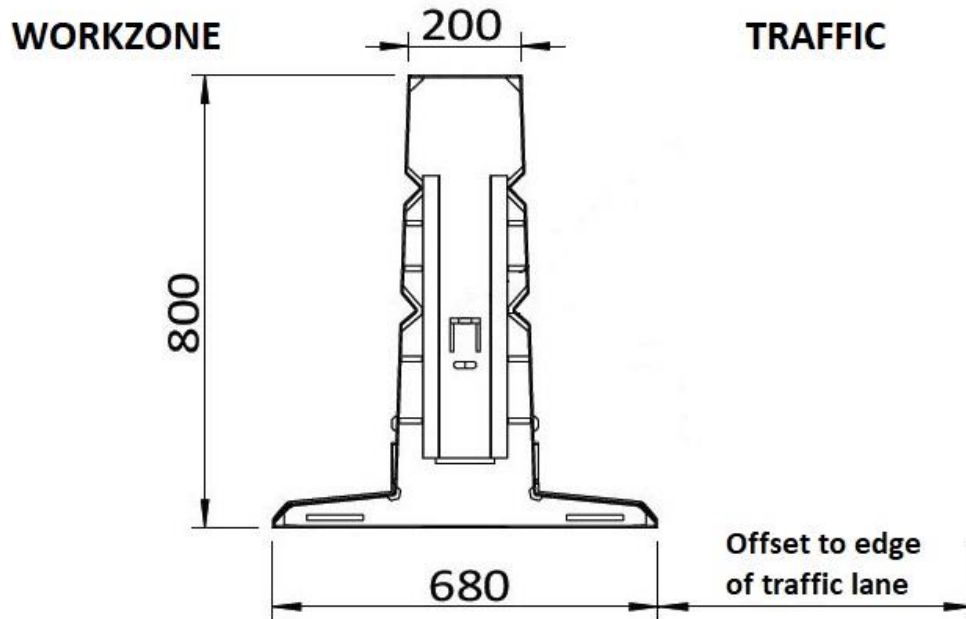
# DEFENDER 100LDS

## REVISION REGISTER

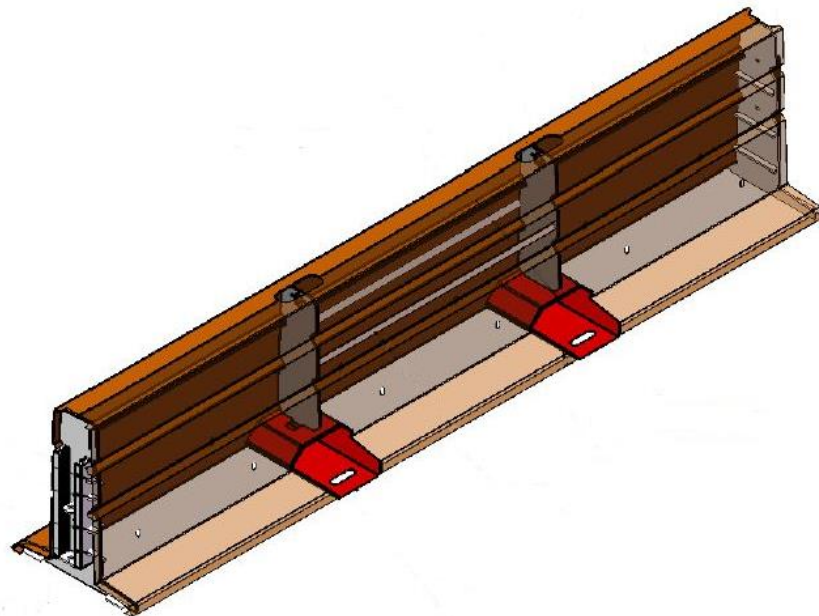
Revision	Description	Date
1	Issued for use.	08/01/2020.

Defender 100LDS is a portable pinned steel barrier that is to be used for temporary applications only. Each Defender 100LDS barrier unit is effectively 3.9 m long with a unit mass of 303 kg. The Defender 100LDS **does not** include concrete filled ballast boxes.

### Images:



Typical cross section of Defender 100LDS



Oblique view of Defender 100LDS unit

## DEFENDER 100LDS



Photograph of Defender 100LDS unit

**Ownership:** Safe Barriers Pte Ltd

**Supplier:** Safe Barriers Pty Ltd  
PO Box 7178  
Hemmant, QLD 4174  
Phone: 1800 169 799  
Website - [www.safebarriers.com](http://www.safebarriers.com)

**Test Level:** Approved to MASH TL3

Test Level	Test Description	Deflection	Working Width (measured at base of units)
MASH – TL3	2,270 kg vehicle @ 100 km/h, 25° impact angle	0.88 m	1.56 m

**Configuration:**

- Standard 3.9 m long units excluding ballast are to be used.
- As the barrier is designed to resist loadings by deflecting the units should be free to move, other than where pinned.
- The system was crash tested on a flat asphalt surface.

**Design:**

- Design to be in accordance with the Defender 100LDS Product Design and Installation Manual Version 1.4, dated 17 April 2018.
- The system is anchored every 9.15 m (maximum) using two symmetrically installed 30 mm diameter x 500 mm long Q235B grade steel ground anchor

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pins. The pins are placed in the pre-cut slot in the barrier drain at the base of the Defender 100LDS barrier.

- It is recommended that the barrier (680 mm width) should be offset from the edge of traffic lane by:
  - traffic speed 40 km/h or less - 0.2 m;
  - traffic speed 41 to 60 km/h - 0.3 m;
  - traffic speed 61 to 80 km/h - 0.5m;
  - traffic speed greater than 80 km/h - 1.0 m
- Barrier length must be sufficient to adequately protect the hazard.
- The ends of the barrier must be protected with a suitable end treatment.
- Minimum pavement construction is 150 mm asphalt with 150 mm compacted sub-base.

### Minimum Length:

78 m (not including TAU-II Crash Cushion).

### Terminals permitted:

- TAU-II Crash Cushion, pinned (anchored), suitable for TL3 conditions.
- At the connection to the crash cushion, the Defender 100LDS end unit is required to be transitioned to the TAU-II Crash Cushion (incorporating 8# ground anchor pins) as detailed in the Defender 100LDS Product Design and Installation Manual Version 1.4, dated 17 April 2018.

### Point of Redirection:

The point of redirection shall be at the nose of the pinned TAU-II Crash Cushion, at both ends; or if the trailing end doesn't form a hazard and does not include a pinned TAU-II Crash Cushion, then 1.275 m upstream of the trailing end, as long as the final barrier unit is pinned.

### Limitations:

- The cross slope shall be not greater than 10% for the area between the edge of travelled way and the barrier, and the area immediately behind the barrier for the width of the deflection.
- Cannot be placed adjacent to kerbs or other objects within the deflection limits of the barrier, which may prevent lateral displacement.
- Standard 3.9 m long units cannot be used on radii less than 230 m.
- Objects should not be placed on top of the barrier as they are designed to move under impact. "Anti-Gawk" screens are not to be attached.

### Installation and Maintenance Requirements:

In accordance with the Defender 100LDS Product Design and Installation Manual Version 1.4, dated 17 April 2018.

### Parts to be Replaced after Impact:

Units may need to be repaired after impact or replaced depending on the extent of damage.

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### Parts Typically Re-Useable after Impact:

Undamaged units.

### References:

Item	Description
1	System tested on 28 February, 19 July and 14 September 2017 by Holmes Solution to MASH TL3. A copy of this testing can be found on Main Roads file 17/9005.

### Relevant FHWA Approval Letters:

Refer to website:

[https://safety.fhwa.dot.gov/roadway\\_dept/countermeasures/reduce\\_crash\\_severity/barriers/pdf/b298.pdf](https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/barriers/pdf/b298.pdf)

Code	Description
B-298	Defender Barrier 100 LDS - MASH TL 3.