CROCGUARD STEEL RAIL BARRIER

REVISION REGISTER

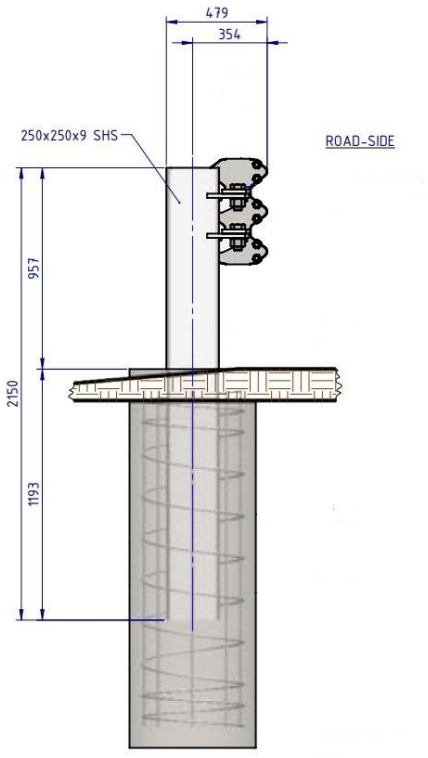
Revision	Description	Date
1	Issued for use.	4/10/2022
1 A	Second bullet point of Limitations clarified.	29/11/2022

CrocGuard is a semi-rigid steel rail barrier system which is accepted for use by Main Roads.

Identification Photograph:

Front View

Drawings:



Typical Cross Section thru Abutment Post

CROCGUARD STEEL RAIL BARRIER

Ownership: Safe Direction Pty Ltd

Supplier: Safe Direction Pty Ltd
5 Simpson Close, Smeaton Grange, NSW 2567
Ph: (02) 4648 0394
Website - http://www.safedirection.com.au/

Test Level:
MASH TL 3 (2,270 kg vehicle)
MASH TL 4 (10,000 kg vehicle).

Configuration:
The CrocGuard steel rail barrier consists of 2# Thrie beam rails that encase a concrete core and spans between 8 m and 16 m between abutment posts. The CrocGuard system connects to the RAMSHIELD transition at each abutment post, which is then connected to w-beam or thrie beam barrier.

The CrocGuard abutment posts are 250 x 250 x 9 SHS, 2150 mm long and encased in concrete footings so that the height of the top of post is 957 mm above ground. The top of the CrocGuard steel rail is at a height 1000 mm above ground.

Unless stated in this document the installation shall be in accordance with the CrocGuard Product Manual (Version 031/05) available on the Safe Direction Pty Ltd website.

Design Considerations:

Test Deflection:
0.82 m under MASH TL 3 conditions (2,270 kg vehicle at 100 km/hr at 25^{o} impact angle)
0.90 m under MASH TL 4 conditions (10,000 kg vehicle at 90 km/hr at 15^{o} impact angle)

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

Working Width:
1.10 m under MASH TL 3 conditions (2,270 kg vehicle at 100 km/hr at 25^{o} impact angle)
1.90 m under MASH TL 4 conditions (10,000 kg vehicle at 90 km/hr at 15^{o} impact angle)

Minimum Length:
The CrocGuard steel rail barrier is supplied in 8 m, 10 m, 12 m 14 m and 16 m lengths. The RAMSHIELD transition is 6m long, when connecting to w-beam barrier.

Point of Redirection:
The CrocGuard steel rail barrier and the RAMSHIELD transition have been crash tested to MASH TL 3, so the MASH TL 3 point of redirection (leading and trailing) is as specified for the terminal that is connected to the w-beam. barrier.

The CrocGuard steel rail barrier has been crash tested to MASH TL 4 at a single location, so the MASH TL 4 points of redirection are not applicable.

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Offset from Kerbing:
The CrocGuard steel rail barrier and the RAMSHIELD transition are not recommended for installation at kerbed locations.

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.

Transitions:
The CrocGuard steel rail barrier connects to the RAMSHIELD transition at each abutment post - refer to drawing SD-RB-06000 in the CrocGuard Product Manual (Version 031/05).

The RAMSHIELD transition may be connected to RAMSHIELD barrier or to public domain w-beam barrier - refer to drawing SD-RB-06000.

The RAMSHIELD transition may be connected to RAMSHIELD HC barrier - refer to drawing SD-RB-06001.

Limitations:

- The installation of CrocGuard steel rail barrier is restricted to soils equivalent to an AASHTO standard soil or stronger (i.e. CBR ≥ 60).
- When installed in soils that are weaker than AASHTO standard soil (i.e. CBR < 60) the design of the abutment post concrete footings and the RAMSHIELD transition should be verified to confirm the performance of the system.

References:

CrocGuard Product Manual (Version 031/05).

Website - http://www.safedirection.com.au/

Refer to Main Roads WA file 22/6798