

SAFETY ROLLER BARRIER

REVISION REGISTER

Revision	Description	Date
1	Issued for use.	01/04/2020

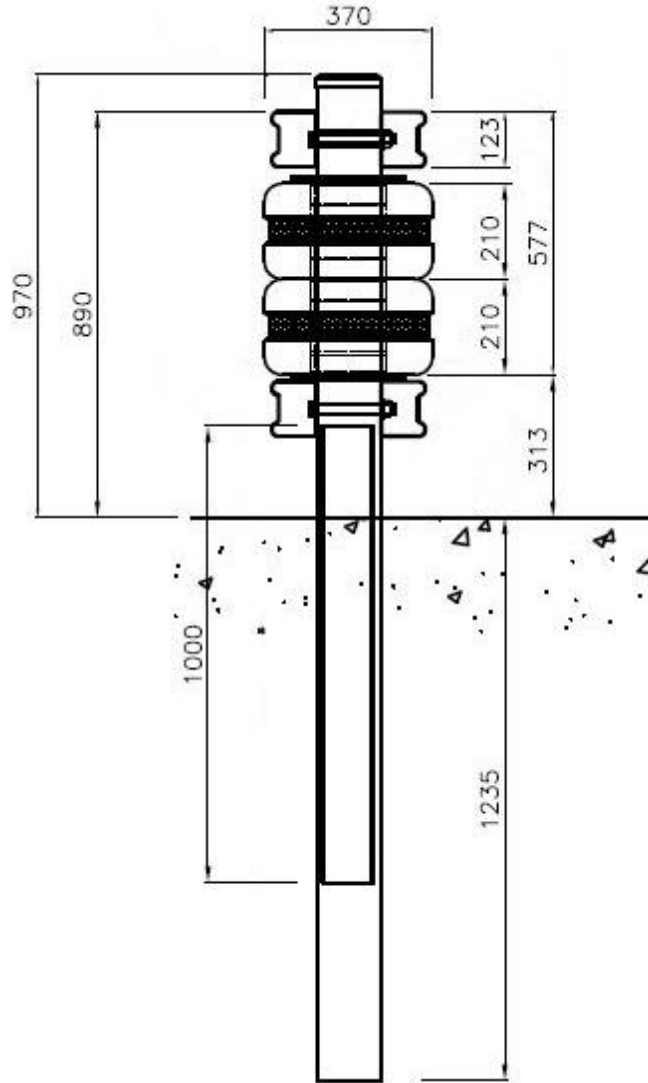
The Safety Roller Barrier is a steel rail safety barrier consisting of vertical steel posts that support a series of yellow ethylene vinyl acetate rollers, which is accepted for use by Main Roads.

Identification Photographs:

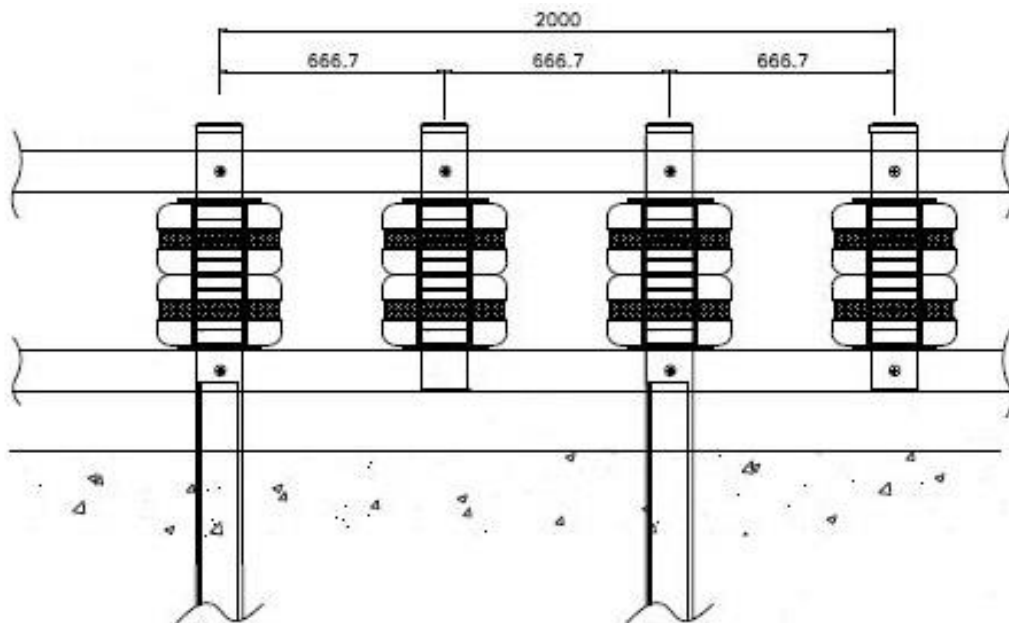


SAFETY ROLLER BARRIER

Drawings:



Typical Cross Section



Typical Elevation

SAFETY ROLLER BARRIER

Ownership: KSI Global Australia Pty Ltd

Supplier: KSI Global Australia Pty Ltd
61 Foskew Way,
Geraldton, 6530, WESTERN AUSTRALIA
Tel : +61 8 9949 9788
Email: weaties@midwesttraffic.com.au
Website: www.ksiglobal.com.au

Test Level: Approved to MASH - TL4

Test Level	Test Description	Deflection	Working Width
MASH – TL3	2270 kg at 100 km/hr and 25°	0.3 m	0.67 m
MASH – TL4	10,000 kg at 100 km/hr and 15°	0.3 m	4.85 m

Note that the deflection and working widths were measured in crash tests performed under controlled conditions. The deflection measured is the horizontal offset between the face of the barrier measured prior to and following vehicle impact. Designers should be aware that the deflection and working widths published as test results may not be the values achieved in the field for all impacts by errant vehicles.

Accepted Design Speed: up to 100 km/hr

Configuration:

The Safety Roller Barrier system consists of vertical steel posts which support a series of horizontal rollers. Two top rails and two bottom rails run horizontal along the length of the barrier system. The steel posts are driven 1235mm below ground level at 1334mm centres. Intermediate posts, placed centrally between line posts are supported by the top and bottom rail members only.

The finished nominal rail height of the system is 890mm, with all steel line posts finishing 80mm above the top of the rail.

Design Considerations:

- Design to be in accordance with the KSI Global Australia Safety Roller Barrier System Manual Version 2.1, Dated 29.08.17.
- The length of need should be determined in accordance with the methodology detailed in the Austroad Guide to Road Design, Part 6 and the relevant Main Roads Supplements.
- Kerbing should not be placed in front of the barrier.
- Objects should not be attached to the barrier or placed behind the barrier within the deflection zone.
- 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 change to allow for an errant vehicle to hit the barrier at an appropriate height
- The ends of the barrier must be fitted with end terminals.
- The offset from the back of the barrier edge to the batter hinge point should be a minimum of 1.85 m as per the Product Manual based on AASHTO standard soil.

Minimum Length:

The minimum length of Safety Roller Barrier is 60m (terminal lengths not included).

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Height Correction:

If placed less than 3m from the face of the kerb the mounting height is measured from the pavement surface. At greater offsets the mounting height is measured from the adjacent finished surface levels.

Terminal Permitted:

- Approved W-Beam terminal in conjunction with crash tested transition should be used with the Safety Roller Barrier.
- Alternatively, the approach end of Safety Roller Barrier may be shielded with an approved crash cushion. This treatment is not accepted on the departure end of Safety Roller Barrier.

Point of Redirection:

Test Level	Point of Redirection
MASH – TL3	4.98 m from the interface between the terminal and barrier
MASH – TL4	29.2 m from the interface between the terminal and barrier

Limitations:

- The Safety Roller Barrier is a proprietary system that has been successfully crash tested in soils equivalent to an AASHTO standard soil (i.e. CBR \approx 60) for the full depth of the posts. If the Safety Roller Barrier is to be installed in soil conditions weaker than an AASHTO standard soil, then advice from the Supplier should be sought.
- When installed in embankment conditions in soils equivalent to AASHTO standard soil or stronger (i.e. CBR \geq 60) the hinge point shall be offset a minimum of 2.0m from the Safety Roller Barrier post.
- Should not be installed behind kerbs if possible. If kerbing is required then mountable Type A 100 mm is acceptable. Semi-mountable and barrier kerbing shall not be used in front of barrier. Refer to Main Roads Standard Drawing 9331-0376 for kerb types.

References:

Item	Description
1	System tested on 12, 15 and 20 November 2012 by Holmes Solution to MASH TL4. A copy of this testing can be found on Main Roads file 12/6785.
2	Transition test conducted on 27 November 2012 by Holmes Solution. A copy of this testing can be found on Main Roads file 12/6785.

Relevant FHWA Approval Letters:

https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/barriers/pdf/b252.pdf