


Safety Barrier Technical Conditions for Use

HighwayGuard MDS Safety Barrier – Permanent & Temporary

	Issue Date: 30 November 2023	Proponent: Highway Care International
	<p>This document is a summary of the Austrroads Safety Barrier Assessment Panel's assessment of the technical performance of the product against AS/NZS 3845 Parts 1 or 2 only. It does not consider procurement practices by individual Road Agencies. The Austrroads Safety Barrier Assessment Panel may at any time, withdraw or modify this document without notice.</p> <p>These Technical Conditions for Use do not imply that this product may be used on roads under the care and control of individual Road Agencies. Users should refer to individual Road Agency websites to determine whether this product is accepted for use within that jurisdiction, and if the Road Agency has adopted any additional or specific requirements.</p> <p>These conditions do not take precedence over Road Agency specifications and standards.</p> <p>These conditions do take precedence over instructions in the Product Manual.</p>	

Status	Recommended for Acceptance
Product accepted	HighwayGuard MDS Safety Barrier <u>Variants</u> Variants that are NOT listed above are NOT recommended for acceptance.
Accepted impact speed	100 km/h
Product manual reviewed	IMP-173 1.2

Design Requirements

Containment Level	Point of Redirection		Tested Article Length (m)	Anchor/Post Spacing (m)	Dynamic Deflection (m)	Working Width (m)	Notes
	Leading (m)	Trailing (m)					
MASH TL3	Interface between barrier and end treatment		36	2.0	0.025	0.67	Single sided applications only. May only be impacted on the pinned side. Refer system conditions

Approved Connections

An accepted end treatment must be provided at both ends of all barrier installations	
Public Domain Products	
W-Beam Guardrail	Not permitted
Thrie-Beam Guardrail	Not permitted
Concrete	Not permitted
Proprietary Products	
QUADGUARD M10 CZ Crash Cushion	<ul style="list-style-type: none"> • Permitted for temporary installations only • Refer to QUADGUARD M10 CZ Crash Cushion Technical Conditions for Use. • The HighwayGuard transition to end terminal must be used to connect the crash cushion to the barrier. • Reverse impacts into the transition section can produce a greater occupant severity value than preferred. Where reverse impacts are possible (e.g. bi-directional traffic), a risk assessment must be completed and steps to mitigate the likelihood of reverse impact should be implemented.
QUADGUARD M10 Crash Cushion	<ul style="list-style-type: none"> • Permitted for permanent installations only • Refer to QUADGUARD M10 Crash Cushion Technical Conditions for Use. • The HighwayGuard transition to end terminal must be used to connect the crash cushion to the barrier. • Reverse impacts into the transition section can produce a greater occupant severity value than preferred. Where reverse impacts are possible (e.g. bi-directional traffic), a risk assessment must be completed and steps to mitigate the likelihood of reverse impact should be implemented.

UNIVERSAL TAU-M Crash Cushion	<ul style="list-style-type: none"> • Permitted for use in unidirectional applications only. Not permitted as a departure terminal. • Refer Universal Tau-M Crash Cushion Technical Conditions for Use. • The HighwayGuard to Universal Tau-M Crash Cushion transition must be used to connect the crash cushion to the barrier.
ABSORB-M Crash Cushion	<ul style="list-style-type: none"> • Permitted for temporary installations only • The installation is restricted to an impact speed of 80 km/h or less. • Refer to Absorb-M Crash Cushion Technical Conditions for Use. • The HighwayGuard to Absorb-M Crash Cushion transition must be used to connect the crash cushion to the barrier. • This is a gating device.
ArmorBuffa Crash Cushion	<ul style="list-style-type: none"> • Permitted for temporary installations only • The installation is restricted to an impact speed of 80 km/h or less. • Refer to ArmorBuffa Crash Cushion Technical Conditions for Use. • The HighwayGuard MDS to Armorbuffa Cushion transition must be used to connect the crash cushion to the barrier. • This is a gating device.
BG800 Steel Safety Barrier	<ul style="list-style-type: none"> • Refer to the BG800 Technical Conditions for Use • The HighwayGuard to BG800 transition must be used to connect the barriers.

Design Guidance

Minimum installation length	36 metres between crash cushions/terminals (tested article)
System width (m)	0.54
Minimum distance to excavation (m)	0.025 – measured from the outer edge of the foot on the works side
Side slope limit	8%
System conditions	<ol style="list-style-type: none"> 1. May not be used for applications where road traffic can impact the unpinned side of the barrier. 2. Installation on top of a kerb is not recommended, however if installed on top of a kerb all system components must be free to operate. 3. All offsets are to be measured from the relevant outer edge of the foot. The foot is not trafficable. 4. This product is designed for constrained sites ONLY that cannot accommodate the working widths of more flexible systems. While providing lower working width, this product increases the potential for vehicle occupant risk during high-speed impacts. 5. Throughout the installation it is recommended to revert to greater pin spacings (LDS, Standard) where there is the accepted working width behind the installation. 6. A risk assessment of using this product must be undertaken. Where the risk of high-speed impacts is high, the speed must be limited to not greater than 80km/h.
Gore area use	Permitted
Pedestrian area use	Permitted
Cycleway use	Permitted
Frequent impact likely	Permitted
Remote location	Permitted
Median use	Permitted

Foundation Pavement Conditions					
Pavement Type	Use	Max Accepted Impact Speed (km/h)	Post/Pin Spacing (m)	Post/Pin Type	Pavement Construction
Concrete	Permitted	100	2.0	M24 x 450mm threaded rod with epoxy	Min 200mm reinforced Min 250mm non-reinforced
Deep lift asphaltic concrete					Min 250mm
Asphaltic concrete over granular pavement					150 mm asphaltic concrete over 150 mm granular pavement (AASHTO standard soil strength)
Flush seal over granular pavement	Not Permitted				
Unsealed compacted formation					

Note: Installation in pavement conditions not permitted above have not been justified to the Panel's satisfaction.