Safety Barrier Technical Conditions for Use

HighwayGuard LDS Safety Barrier – Temporary

Issue Date: 1 December 2022 | **Proponent:** Highway Care International

This document is a summary of the Austroads 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 Austroads Safety Barrier Assessment Panel may at any time, withdraw or modify this document without notice.

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.

These conditions do not take precedence over Road Agency specifications and standards.

These conditions do take precedence over instructions in the Product Manual.

Status	**Recommended for Acceptance**
Product accepted	HighwayGuard LDS Safety Barrier <u>Variants</u> 6 metre sections 12 metre sections Variants that are NOT listed above are NOT recommended for acceptance.
Accepted impact speed	100 km/h
Product manual reviewed	IMP-124 Issue 1.6 - 11/22

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		60	12	0.68	1.22	
MASH TL3	Interface between barrier and end treatment		Not applicable[1]	24	1.16[2]	1.70[3]	[1]this result is based on simulation [2]deflection recorded from 4-12 test [3]deflection plus system width
MASH TL4	34.5	49.5	84	24	1.16	2.88	

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	• 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.

UNIVERSAL TAU-M Crash Cushion	• **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	• **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 LDS 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	• **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 to Armorbuffa Cushion transition must be used to connect the crash cushion to the barrier. • This is a gating device.
BG800 Steel Safety Barrier	• Refer to BG800 Technical Conditions for Use. • The HighwayGaurd to BG800 transition must be used to connect the barriers.
LEGACY: Quadguard CZ Crash Cushion	• **LEGACY status recommended from 1 January 2021.** • Refer to Quadguard Crash Cushion Technical Conditions for Use. • The HighwayGuard LDS to Quadguard Crash Cushion transition 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.
LEGACY: Universal Tau-II Crash Cushion	• **LEGACY status recommended from 1 January 2021.** • Refer to Universal Tau-II Crash Cushion Technical Conditions for Use. • The HighwayGuard LDS to Universal Tau-II Crash Cushion transition 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.

Design Guidance

Minimum installation length	60 metres between crash cushions/terminals (tested article)
System width (m)	0.54
Minimum distance to excavation (m)	0.68 (TL3 – 12 metre anchor spacing) – measured from the outer edge of the foot on the works side 1.16 (24 metre anchor spacing) – measured from the outer edge of the foot on the works side
Side slope limit	8%
System conditions	1. 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. 2. All offsets are to be measured from the relevant outer edge of the foot. The foot is not trafficable.
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	12 or 24	M24 x 330mm threaded rod with epoxy **(12 metre anchor spacing only)** 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					150mm asphalt concrete over granular subbase
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.