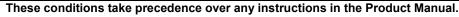
Safety Barrier Technical Conditions for Use

HighwayGuard LDS Safety Barrier - Permanent

Issue Date:

1 December 2021

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 Assessment Panel may at any time, withdraw or modify this Technical Conditions for Use without notice.

These acceptance conditions should be read in conjunction with the Product Manual and Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers.

Acceptance of this product does not place any obligation on the Northern Territory Government or its contractors, to purchase or use the product.

Status	Recommended for Acceptance			
Product accepted	HighwayGuard LDS Safety Barrier			
	Variants 6 metre sections 12 metre sections Variants that are NOT listed above are NOT recommended for acceptance.			
Accepted speed	100 km/h			
Product manual reviewed	IMP-124 Issue 1.5			
Product manual	https://www.ingalcivil.com.au/products/temporary-barriers/highwayguard#Manual			

Design Requirements

	Point of Redirection		Tested Article	Anchor/Post	Dynamic	Working	
Containment Level	Leading (m)	Trailing (m)	Length (m)	Spacing (m)	Deflection (m)	Width (m)	Notes
MASH TL3	Interface between barrier and end treatment		60	12	0.68	1.22	
MASH TL3	ASH 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					
BG800 Steel Safety Barrier	 Refer to BG800 Safety Barrier Technical Conditions for Use. The HighwayGuard to BG800 transition must be used to connect the barriers. 				
UNIVERSAL TAU-M Crash Cushion	 Permitted for use in unidirectional applications only. Not permitted as a departure terminal. Refer Universal Tau-M Crash Cushion Conditions for Use. The HighwayGuard to Universal Tau-M Crash Cushion transition must be used to connect the crash cushion to the barrier. 				
QUADGUARD M10 Crash Cushion	 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. 				

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	 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. 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		100	12 or 24	M24 x 330mm threaded rod with epoxy	Min 200mm reinforced Min 250mm non-reinforced		
Deep lift asphaltic concrete	Permitted			(12 metre anchor spacing only)	Min 250mm		
Asphaltic concrete over granular pavement				M24 x 450mm threaded rod with epoxy	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.