DEPARTMENT OF
INFRASTRUCTURE, PLANNING AND LOGISTICS

Safety Barrier Technical Conditions for Use

DEFENDER Barrier 100 HC Steel Safety Barrier - Temporary

Issue Date: 3 September 2021 | **Supplier:** Safe Barriers Pty Ltd

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

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	DEFENDER Barrier 100 HC Steel Safety Barrier Variants Variants that are NOT listed above are NOT recommended for acceptance.
Accepted impact speed	100 km/h
Product manual reviewed	D100HC-M-2103 March 21 Ver 2.3
Product manual	Microsoft Word - D100HC-M-2103 Installation Manual 2.3.docx (safebarriers.com)

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		97.5	45.45	1.96	2.44	Flush seal over granular & Unsealed compacted formation
MASH TL3			97.5	48.14	2.3	2.98	AC over granular pavements only
MASH TL4	7.8	7.8	97.5	48.14	2.47	3.31	AC over granular pavements only

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	
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 Defender HC 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.
HERCULES Crash Cushion	• **Permitted for use in unidirectional applications only. Not permitted as a departure terminal.** • Refer Hercules Crash Cushion Technical Conditions for Use. • The Defender HC to Universal Hercules Crash Cushion transition must be used to connect the crash cushion to the barrier.
QUADGUARD M10 CZ Crash Cushion	• Refer to QUADGUARD M10 CZ Crash Cushion Technical Conditions for Use. • The Defender 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.
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 Defender HC to Absorb-M Crash Cushion transition must be used to connect the crash cushion to the barrier. • This is a gating device.
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 Defender to Universal Tau-M Crash Cushion transition must be used to connect the crash cushion to the barrier.

Design Guidance

Minimum installation length	97.5 metres between crash cushions/terminals (tested article)
System width (m)	0.68
Minimum distance to excavation (m)	2.3 (TL3) – measured from the outer edge of the foot on the works side 2.47 (TL4) – measured from the outer edge of the foot on the works side
Side slope limit	10%
System conditions	1. Installation on top of a kerb is not recommended. 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	Not permitted				
Deep lift asphaltic concrete					
Asphaltic concrete over granular pavement	Permitted	100	48.14m	M30 x 500mm asphalt pin	150mm AC 150mm compacted sub base
Flush seal over granular pavement	Permitted (MASH TL3)		45.45		Flush seal over MIN AASHTO Standard Soil strength
Unsealed compacted formation					Min. AASHTO Standard Soil strength

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