

Department of Transport and Main Roads

Road Safety Barrier Systems and End Treatments: Product Information Sheet

This information sheet shall be, where relevant, read in conjunction with the manufacturer's latest manual.

SMART Cushion

Created: Friday, 20 December 2019

1:15 PM

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Status*: Accepted

* TMR reserves the right to alter the Status and Status Expiry Date at any time. Always refer to latest version of TMR's Road Safety Barrier Systems and End Treatments document.

Status Commencement Date: Aug 2014

Status Expiry Date*: Not Set

Category: End Treatment

Gating/Non-Gating: Non-Gating

Sub Category: Attenuator

Redirective/Non-Redirective: Redirective

Main Material: Steel

Permanent/Temporary: Permanent

Ownership:

LB Australia Pty Ltd
www.lbaustralia.com.au

Supplier:

LB Australia Pty Ltd
www.lbaustralia.com.au



Introduction:

The SMART Cushion is a restorable/reusable crash attenuator suitable for shielding the blunt ends of single slope and Type F concrete road safety barriers. It employs friction and a hydraulic cylinder to absorb the energy of impact.

Two variants are accepted:

- SMART CUSHION SCI100GM
- SMART CUSHION SCI70GM

Test Level:

- SMART CUSHION SCI100GM has been tested to:
 - MASH test level TL-3, and
 - NCHRP Report 350 test level TL-3
- SMART CUSHION SCI70GM has been tested to:
 - NCHRP Report 350 test level TL-2

Recommended End Treatments:

Not Applicable.

SMART Cushion

Design:

The SMART Cushion must be installed and maintained in accordance with the SMART Product Manual provided by the supplier.

Configuration	Length	Width
TL-3 (SCI100GM)	6,550 mm	0.96 m
TL-2 (SCI70GM)	4,118 mm	0.88 m

In situations where traffic may approach the system in the reverse direction the appropriate transition arrangement should be specified by the designer.

Design should provide for accommodation of any movement of side panels and other moving parts during impact.

Designer should nominate required nose-markings.

Deflection:

Not applicable.

Limitations:

Should not be used on crossfalls steeper than 10%.

Elevated kerbs, islands, drainage structures or any other item that can affect the height at which a vehicle could impact the unit should not be placed in advance of the unit or along the length of the unit.

References:

- AS/NZS 3845:1999
- NCHRP Report 350
- Austroads Acceptance Conditions Document (30-Jun-2014)
- SMART Cushion Product Manual dated July 2012
- FHWA letter ref. CC-85 dated 12-Sep-2003
- FHWA letter ref. CC-85A dated 2-Feb-2005
- KARCO MASH Test Report No. TR-P36055-01-A, TR-P35022-01-B, TR-P36056-01-A, TR-P36051-01-A, TR-P36054-01-A, TR-P36053-01-A, TR-P36052-01-A, TR-P36021-01-A, TR-P36142-01-NC