

DETAIL SHEET

UNIVERSAL TAU II CRASH CUSHION

Details

Category:	End Treatment
Sub Category:	Crash Cushion
Main Material:	Steel
Gating/Non Gating:	Non-Gating
Redirective/ Non- Redirective:	Redirective
Permanent/ Temporary:	Permanent system but can also be used in temporary configurations

Ownership

Lindsay Transportation Solutions/Barrier Systems
 180 River Road, Rio Vista CA94571
 Website: www.lindsay.com/transportation-solutions

Supplier

Australian Construction Products PTY Ltd (ACP)
 PO Box 565 PANANIA NSW 2213
 Phone 02 9772 4172 Fax 02 9792 6272
 Website: www.acprod.com.au

Accepted Test Level

NCHRP 350 Test Level 2 (TL2): 70km/hr
 NCHRP 350 Test Level 3 (TL3): 100km/hr

Description

The Universal TAU II crash cushion system is a fully redirective, non-gating crash attenuator and is suited for both narrow and wide hazards (hazards up to 2.6m wide).

The Universal TAU-II system is designed to shield the ends of median barriers and other fixed objects likely to be struck head-on, by absorbing and dissipating the kinetic energy of impacting vehicles.



Drawing

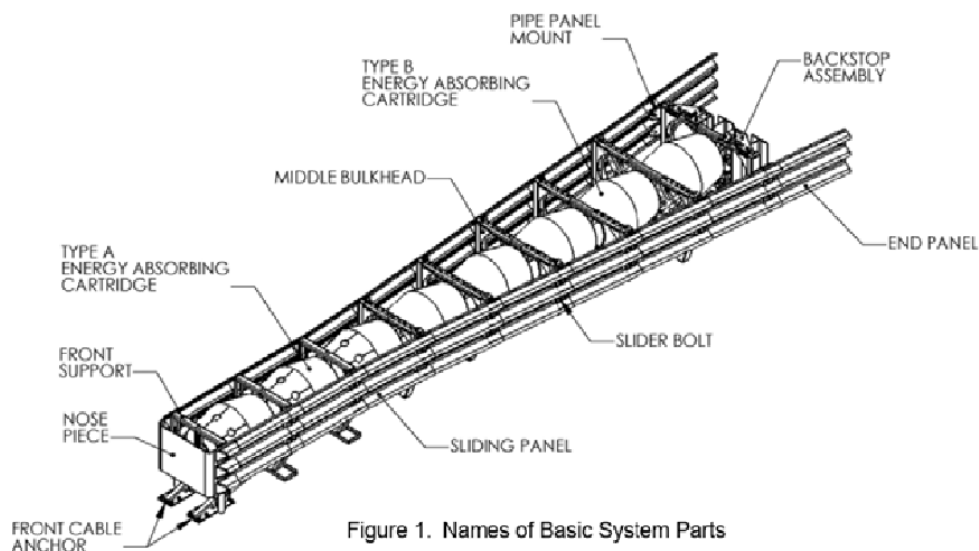


Figure 1. Names of Basic System Parts

Design

- Design shall be in accordance with the Supplier Universal TAU II Product Manual.
- TAU-II system is designed to stand alone or attach to a permanent or portable concrete barrier

System Configuration

- The Universal TAU-II systems are provided in lengths and capacities for both low speed and high speed applications.
- The system contains two types of Energy Absorbing Cartridges (EACs): Type A and Type B.
- The number of EACs used in a system will depend on the design speed.
 - TL2 System (70km/hr): contains four EACs
 - TL3 System (100km/hr): contains eight EACs
- For system configurations for other design speeds, refer to the ACP Universal TAU II Design Guide.

Hazard Widths

- The Universal TAU-II system can be applied to hazards with a width up to 2.6m (ideally suited for roadway hazards 1000mm-2440mm in width)
- As the panels telescope rearward during head-on impacts the hazard width must not prevent the panels from this movement.
- The panels can, through the use of a variable width diaphragm, be angled at 5 degrees to allow the unit to protect a wider hazard.

Backstop Assembly

- The unit has different backstop options, each having its own limitations in terms of widths of hazard that can be protected.
- Backstops can be attached directly to a barrier wall or a suitable structure, or installed as a stand-alone system.
- Backstop options available have been summarised in Table 1 below. Refer to Design Guide for backstop assembly details.

Backstop Configuration	Type of Backstop Assembly Required	
	Narrow Installations (≤910mm)	Wide Installations
Attached to Barrier/ Structure	Portable Concrete Barrier (PCB) Backstop	Flush Mount Backstop (for hazards exceeding width limitations of PCB)
Stand-Alone System	Compact Backstop	Wide Flange Backstop (>1070mm wide)

Table 1: Backstop Assembly Options

Foundation Configuration

- There are different foundation configurations depending on which type of backstop is being used (Compact or P.C.B).
- There are three approved anchoring foundation configurations for the Universal TAU-II system:
 1. Concrete pad over the length of the system
 2. Concrete anchor blocks at the Backstop and Front Cable Anchor locations
 3. Asphaltic Concrete Foundation
- Refer to Product Manual for Anchoring Foundation specifications.

Transition Requirements

- Various transition options are available for the Universal TAU-II system, including transitions to concrete, W-Beam and Thriebeam.
- Transitions are to be selected depending on the hazard being protected and which backstop is being used.
- Refer to Product Manual for recommended transition option drawings.

Limitations

- Not to be used on crossfalls steeper than 8%.
- 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 15m prior to the unit or along the length of the unit. Refer RPDM Ch.8/8.2.2.2 for further discussion.

Installation & Maintenance

- Installation to be in accordance with the Supplier Universal TAU-II® Installation and Assembly Manual.
- When installing the EACs as a system, it is important that they are placed in accordance with the Supplier Universal TAU II Crash Cushion Installation Manual.
- *Parts to be Replaced After impact:*
 - Crushed cartridges and damaged slider panels.
- *Parts Typically Re-useable After Impact:*
 - Undamaged cartridges, diaphragms & most slider panels

References

- Supplier Universal TAU-II® Installation and Assembly Manual
- Universal TAU-II Crash Cushion Design Guide.