

# BARRIER SYSTEMS

## Universal TAU-II® Family of Crash Cushions

A Full Line of Redirective,  
Non-Gating Crash Cushions



# Universal TAU-II®

## A Full Line of Redirective, Non-Gating Crash Cushions

The Universal TAU-II® system consists of a full line of crash cushion products which have been tested to meet the rigorous requirements of the NCHRP Report 350. The system is provided in lengths and with capacities for both low speed and high speed applications.

The Universal TAU-II® system is fully redirective and non-gating, and it is ideally suited for narrow and wide hazards such as the ends of rigid barriers, tollbooths, utility poles, gore points and wherever it is desirable to have vehicles redirected away from the hazard.

Ease of installation, numerous transition options, low maintenance requirements, and reusability of system components make the system ideal for treating most road-side hazards.

The Universal TAU-II® has an open architecture that helps reduce the buildup of roadside debris. This keeps the Energy Absorbing Cartridges clear of roadway litter to ensure proper performance and provides better access to the unit for maintenance.

The system has only 21 anchor points for concrete installations. This reduces installation times and limits worker exposure during installation.

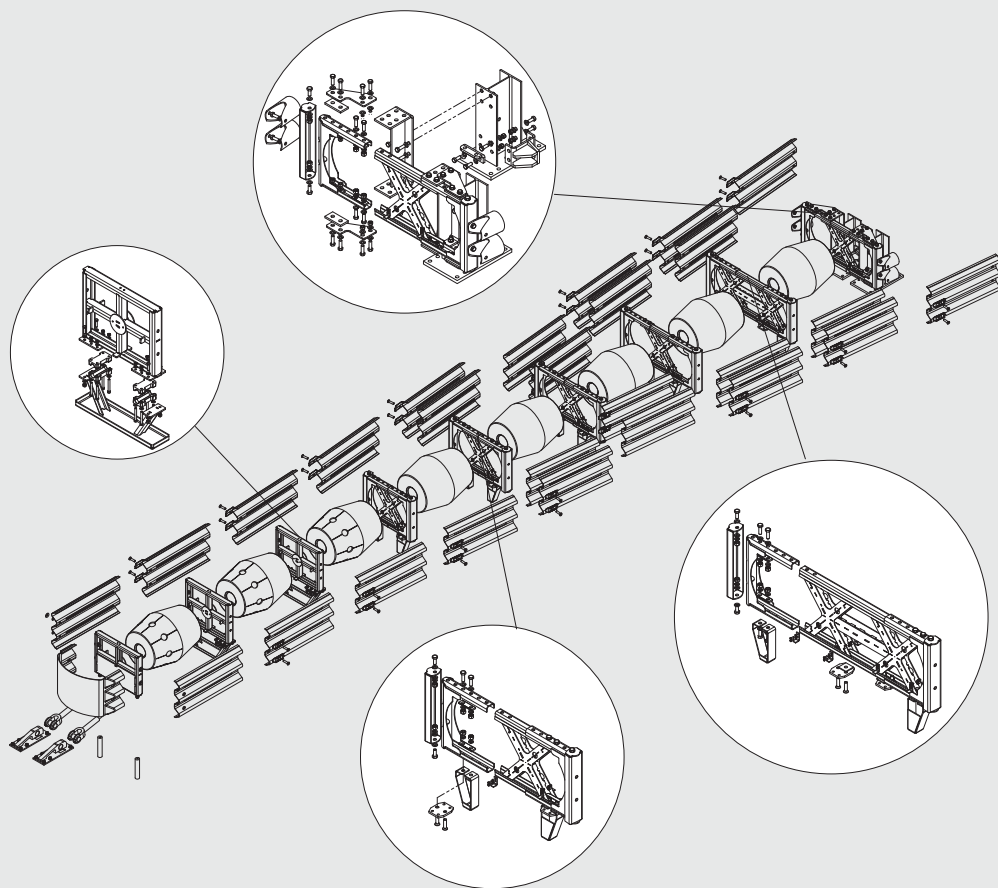
Installation of the TL-3 system takes two workers less than 3 hours. The Universal TAU-II® system has three foundation options:

- Concrete
- Asphalt
- Preassembled Concrete Pad

The system uses standard AASHTO transitions to attach to most hazards. The small number of parts keeps inventories low.

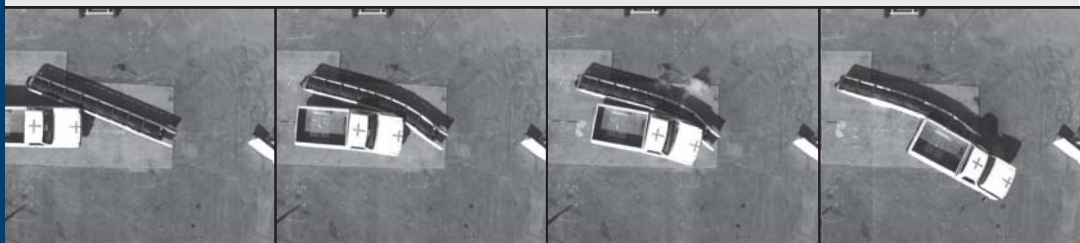
# Universal TAU-II® Crash Cushions

Choose Any Width and Capacity From a Basic Inventory



## Numerous System Options, Relatively Small Number of Parts

It is sometimes desirable to have a crash cushion that has an energy absorbing capacity that is above, below, or in between Test Level 2 and 3. The table on the upper right indicates the number of bays and the energy absorbing cartridge configuration that would be required to absorb the kinetic energy of a 4400 lb. (2000 kg) vehicle impacting the front of the Universal TAU-II® system head-on and at the velocity indicated. Though the system configuration possibilities are numerous, the Universal TAU-II® system allows unmatched flexibility with a relatively small number of parts.



## High Survivability with Multiple Side Impacts

The Universal TAU-II® system has many reusable parts that can survive multiple impacts. An accounting of the NCHRP Report 350 Crash Test Matrix showed that the average cost of repair was less than half that of comparable systems. Because of the lateral cable supports, most side impacts result in little or no damage.



# Universal TAU-II® System Configuration Chart

## SPEED

30 mph\*  
[50 km/h]

35+ mph\*  
[60 km/h]

40+ mph\*  
[70 km/h] Test Level - 2

50 mph\*  
[80 km/h]

55+ mph\*  
[90 km/h]

60+ mph\*  
[100 km/h] Test Level - 3

70 mph  
[110 km/h]

BACKSTOP WIDTH

UP TO 30" [760 mm]	B B	B B A	B B B A	B B B B A	B B B B B A A	B B B B B A A A A	B B B B B B B A A A A
36" [910 mm]	B B	B B A	B B B A	B B B B A	B B B B B A A	B B B B B A A A A	B B B B B B B A A A A
42" [1060 mm]	B B	B B A	B B B A	B B B B A	B B B B B A A	B B B B B A A A A	B B B B B B B A A A A
48" [1220 mm]	B B	B B A	B B B A	B B B B A	B B B B B A A	B B B B B A A A A	B B B B B B B A A A A
54" [1370 mm]	B B	B B A	B B B A	B B B B A	B B B B B A A	B B B B B A A A A	B B B B B B B A A A A
60" [1520 mm]	B B	B B A	B B B A	B B B B A	B B B B B A A	B B B B B A A A A	B B B B B B B A A A A
66" [1680 mm]		B A B A	B B A B B A	B B B A B B B A	B B B B A B B B B A	B B B B B A A A A	B B B B B B B A A A A
72" [1830 mm]		B A B A	B B A B B A	B B B A B B B A	B B B B A B B B B A	B B B B B A A A A	B B B B B B B A A A A
78" [1980 mm]		B A B A	B B A B B A	B B B A B B B A	B B B B A B B B B A	B B B B B A A A A	B B B B B B B A A A A
84" [2130 mm]			B B A B B A	B B B A B B B A	B B B B A B B B B A	B B B B B A A A A	B B B B B B B A A A A
90" [2290 mm]			B B A B B A	B B B A B B B A	B B B B A B B B B A	B B B B B A A A A	B B B B B B B A A A A
96" [2440 mm]			B B A B B A	B B B A B B B A	B B B B A B B B B A	B B B B B A A A A	B B B B B B B A A A A
102" [2600 mm]							B B B B B A A A A

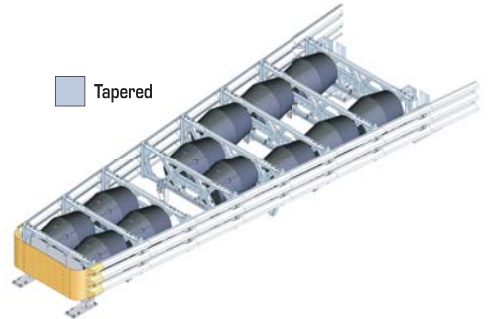
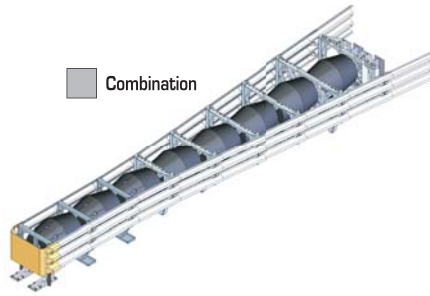
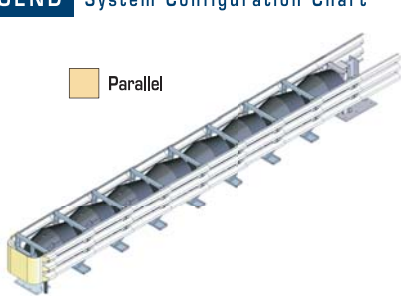
\* Speed and capacity rounded down to nearest 5 mph level. Contact Customer Service for further information.

## LEGEND System Configuration Chart

Parallel

Combination

Tapered



## Advantages & Benefits:

- Low Life Cycle Costs
- Highly Reusable System Elements with Replaceable Energy Absorbing Cartridges
- High Impact Survivability
- Interchangeable Components
- Small Number of Parts Keeps Inventories Low
- Fully Redirective, Non-Gating
- Low and High Speed Applications
- Protect Hazard Widths up to 8.5 feet (2.6 m)
- Easy to Install and Maintain



# Frequently Asked Questions

## Universal TAU-II® Crash Cushions

### What type of equipment is needed to install the Universal TAU-II® system?

The Universal TAU-II® system can be assembled at a job site or pre-assembled and delivered for final installation. Assembling at job site requires no special equipment. Standard tools for installation would include torque wrenches, standard mechanics' tools, and concrete drill bits with an electric or pneumatic power drill. To install a pre-assembled unit will require the use of a crane or forklift capable of lifting 3,000 pounds.

### What type of foundation is required to install the Universal TAU-II®? How many anchor points are required?

BSI recommends that the system be anchored to six-inch reinforced 4,000 psi Portland cement concrete foundation. Other foundation options could be provided by contacting the BSI Application Engineering Department.

In contrast with other fully redirective non-gating crash cushion systems, the Universal TAU-II® system requires only 21 anchor points into a concrete foundation.

### On average, how long does it take to assemble the Universal TAU-II® crash cushion system at the job site?

Depending on the application and circumstances at the job site, assembly and installation will take a two-person crew less than three hours.

### Does your company teach installers to service and repair the Universal TAU-II®?

BSI will train installers to service and repair the system. The Universal TAU-II® has been designed with the customer in mind. For many impacts, the unit can be easily refurbished in less than one-half hour. In many cases, local distributors can provide assistance in this regard.

### Can the Universal TAU-II® be attached to the end of a guardrail, permanent and/or portable concrete barrier?

The Universal TAU-II® Crash Cushion system is designed to be attached and/or transitioned to any type of barrier.

### Can system capacity be changed in the field?

The Universal TAU-II® system is capable of on-site modifications by adding or removing compression bays or sections to accommodate any future change in the design speed of the existing roadway.

## Where to Use Universal TAU-II® Crash Cushions:

- Guard Rail Ends
- Tollbooths
- Utility Poles
- Gore Points
- Left Exits in High Volume Traffic Areas
- High Speed Locations with Wide or Narrow Medians
- Medians with Horizontal Curvature
- Rigid Barrier Ends

## Why Use Universal TAU-II® Crash Cushions:



Permanent Use



Asphalt Anchoring for Construction Applications



Protecting Stationary RTS-QMB™ Wall

- Low Life Cycle Cost
- No Rails
- No Tracks
- No Hydraulic Systems
- High Strength Thrie Beam Construction

## General Product Specifications:

### Performance:

- NCHRP Report 350, Redirective, Non-Gating Crash Cushion
- Protect hazard widths up to 8.5 feet (2.6 meters) and for capacities from Test Level 1 to over Test Level 3

### Material Characteristics:

- Width - Approximately 2.3 feet to 8.5 feet (0.7 meters to 2.6 meters)
- Height - Approximately 2.7 feet (0.8 meters)

### Materials:

- Steel elements - galvanized in accordance with ASTM 123
- Energy absorbing elements - specially formulated polymers designed for outdoor use.

## BARRIER SYSTEMS

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