

BARRIER SYSTEMS

ABSORB 350[®] Crash Cushion System

Non-Redirective, Gating
Crash Cushion System



ABSORB 350®

Non-Redirective, Gating Crash Cushion System

The ABSORB 350® Crash Cushion System has been fully designed and tested to comply with the evaluation requirements of the National Cooperative Highway Research Program Report 350 (NCHRP 350) for Test Levels 2 (70 km/h) and 3 (100 km/h). The Test Level 2 system contains five energy absorbing elements and the Test Level 3 system contains nine energy absorbing elements.

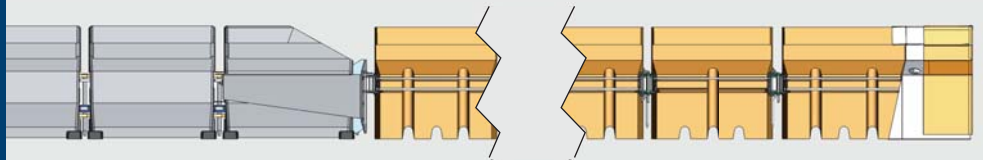
It is sometimes desirable to have a crash cushion that has an energy absorbing capacity that is less than Test Level 2, between Test Level 2 and Test Level 3, or greater than Test Level 3. Therefore, the following table indicates the number of elements, and the element placement configuration, that would be required to absorb the kinetic energy of a 2000 kg (4400 lb.) vehicle impacting the front of the ABSORB 350® system, head-on and at the velocity indicated.

Roadside safety features, such as crash cushions, must be installed in accordance with the AASHTO Roadside Design Guide, state and local standards and in conformance with the manufacturer's instructions. Instructions from the manufacturer are available by contacting Barrier Systems, Inc., Customer Service Department.

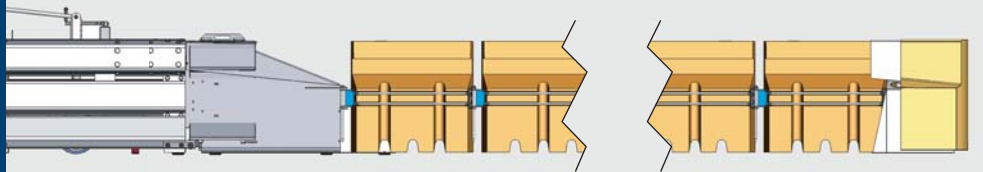


One System, Numerous Applications

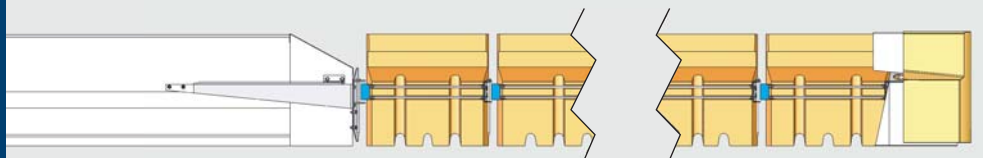
ABSORB 350® Attaches Easily to Portable, Permanent and Moveable Barriers



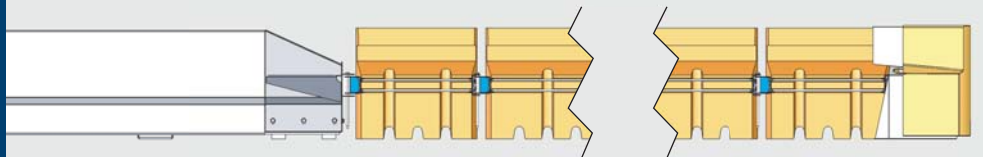
ABSORB 350® attached to **Quickchange® Moveable Barrier System**



ABSORB 350® attached to **ArmorGuard® Barrier**



ABSORB 350® attached to **Portable Concrete Barrier**

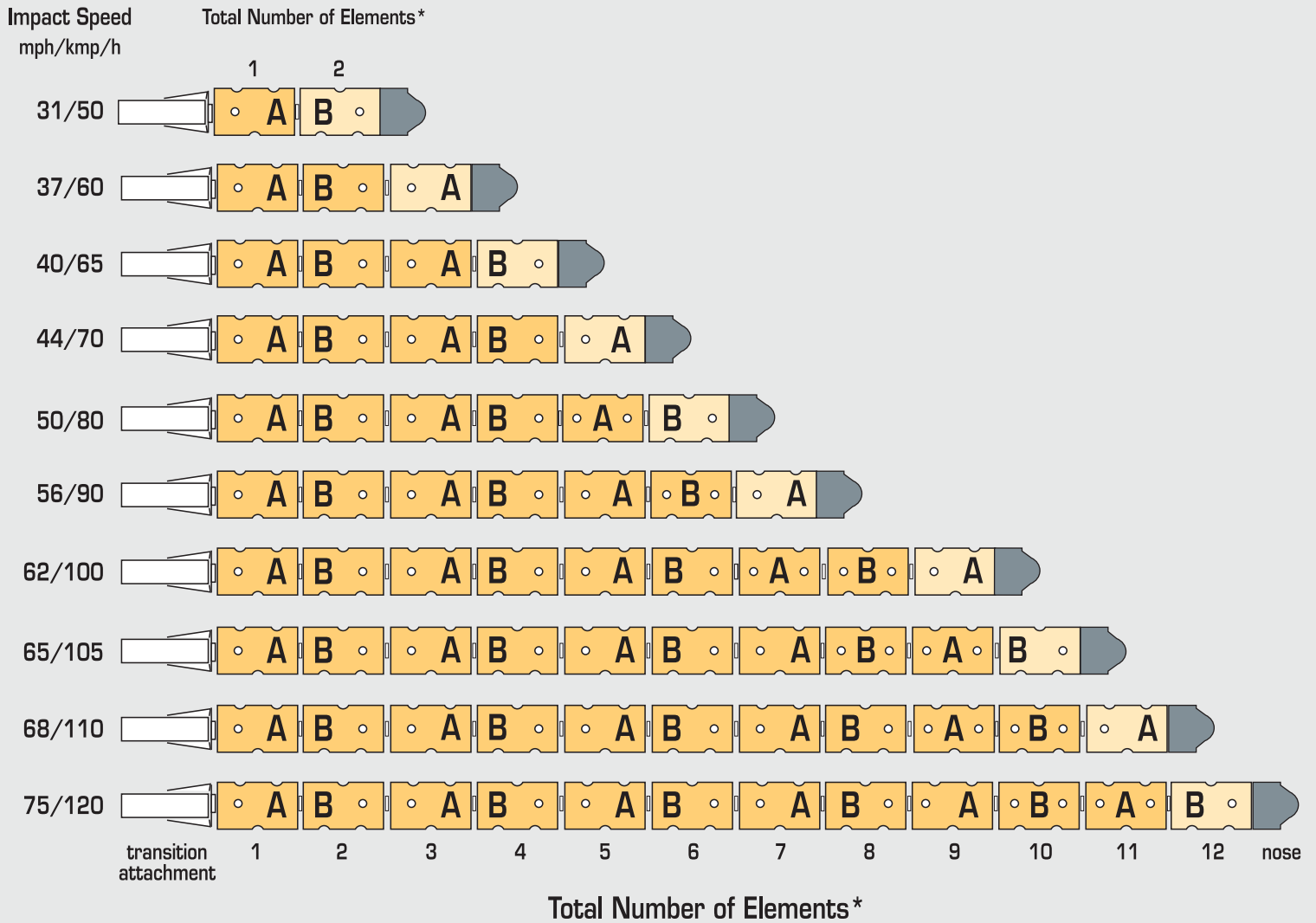


ABSORB 350® attached to **BarrierGuard™ 800**

ABSORB 350® Advantages & Benefits:

- Attaches to Portable, Permanent and Moveable Barriers
- Easy to Install, Maintain and Relocate
- Requires No Foundation or Anchoring
- Tested and Approved to NCHRP Report 350 Test Levels 2 and 3
- Easy Clean-up Reduces Worker Exposure
- Narrow Profile Ideal for Permanent or Temporary Sites
- Superior Overall Performance to Sand Barrels
- Interchangeable System Components
- High and Low Speed Applications
- Treat More Sites and Spend Less!

ABSORB 350® System Configuration Chart



*Refer to the configuration chart in the ABSORB 350® Installation Manual for specific instructions.

Where to Use ABSORB 350®

- Exits
- Wide Medians
- Narrow Hazards
- Portable Barrier Ends
- Moveable Barrier Ends
- Edge of Road Locations
- Permanent Barrier Ends
- Where other non-directive or partially redirective systems are often used



Frequently Asked Questions

ABSORB 350® Crash Cushions

What type of equipment is needed to fill the modules with the water and antifreeze mix?

No special equipment is required for filling the ABSORB 350® units. The hole in the top of the ABSORB 350® is three inches (3") in diameter. A standard water truck with a two and one half inch (2.5") diameter hose is completely adequate for filling the ABSORB 350® elements.

How long does it take to fill a module?

To fill an ABSORB 350® element with a standard two and one-half inch hose using gravity drain from a water truck will take approximately one minute. It requires approximately 70 gallons of water to fill each unit. If the water is transferred via a power pump, it will take less than one minute to fill each unit.

Does your company teach installers to service and repair the system?

Barrier Systems, Inc. will train installers to service and repair the ABSORB 350® system. ABSORB 350® has been designed with the consumer in mind. For most impacts, the ABSORB 350® system should be able to be refurbished in less than one-half hour. In many cases, local distributors of the ABSORB 350® system can provide assistance in this regard.

What type of environmentally safe antifreeze does your company recommend?

Customers should consult with local agencies to use solutions that conform to local requirements. Some customers have indicated that common deicing and dust control chemicals that are used on the highway make excellent choices for antifreeze agents.

Can the ABSORB 350® "nose piece" be angled off the barrier to better face traffic?

The ABSORB 350® system is designed to be flexible allowing "small angle adjustments" and movement at the job site. The "nose piece" can be angled off to face traffic as long as all of the ABSORB 350® units remain pinned and fully connected. For larger angles, it is recommended that the last barrier section be moved to face traffic to reduce tension on the system.

Can the ABSORB 350® be moved while filled with water?

The ABSORB 350® unit has been designed to be picked up and laterally transferred through the Barrier Transfer Machine (BTM) or it can be moved with forklifts. Additionally, portable wheel mechanisms specially designed for the ABSORB 350® can be used to manually move the full units within minutes utilizing minimal manpower.

Can the ABSORB 350® units be easily damaged by "vandalism"?

The ABSORB 350® system has been designed to minimize the potential for vandalism. The units are made of durable linear low density polyethylene (LLDPE) that is approximately one quarter inch (7mm) thick to reduce the likelihood of blunt or sharp objects penetrating the top or side walls.

Why Use ABSORB 350® Crash Cushions:

- Improved life-saving performance over traditional sand-barrel systems.
- Requires no anchoring to the roadway surface, simplifying installation.
- Lightweight modular design offers exceptional portability - Components can be transported easily without special lifting equipment.
- Narrow 24" profile



Moveable Barrier Application



Portable Application



Portable Steel Barrier

General Product Specifications:

Performance:

- NCHRP Report 350, Non-Redirective, Gating, Crash Cushion System designed for attachment to Permanent or Portable Barrier.

Nine Element System - Approved to NCHRP Report 350, Test Level 3 (100 km/h)

Five Element System - Approved to NCHRP Report 350, Test Level 2 (70 km/h)

Material Characteristics:

- System Length and Height
 - Nine Element System - 32 feet (9.7 m)*
 - Five Element System - 19 feet (5.7 m)*
 - Height - 32 in (0.8 m)*
- Weights
 - Empty Weight per Element - 85 pounds (39 kg)*
 - Filled Weight per Element - 670 pounds (304 kg)*
 - Approximately 70 gallons per element (265 liters)*

Materials:

- Plastic Elements - Polyethylene
- Steel components - ASTM A-36 mild steel
 - Structural element galvanized to ASTM 123*

BARRIER SYSTEMS

Local Distributor

Barrier Systems Sales and Service
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