

**ACZ-350 SYSTEM
GENERAL SPECIFICATIONS**

I. GENERAL

- A. The ACZ-350 is especially suited for use with Portable Concrete Median Barrier (PCMB). When assembled as specified by the manufacturer, the components of the ACZ-350 shall provide an integral non-redirecting crashworthy end treatment.

- B. All elements, components, and subassemblies of the ACZ-350 shall be designed, manufactured, and/or supplied by Energy Absorption Systems, Inc., of Chicago, Illinois.

II. DESCRIPTION OF THE SYSTEM

- A. The ACZ-350 TL-3 system shall consist of a nose, four water filled barrier sections, and a transition.
 - 1. The nose segment shall be constructed of 14 ga steel, free of water and connect to the lead barrier sections.

 - 2. Barrier sections shall be composed of the following:
 - a) Each barrier section shall be constructed of a lightweight, recyclable, linear low density polyethylene plastic shell, with UV stabilizers and antioxidants, designed to accept water ballast.

 - b) The approximate physical dimensions and capacities of the barrier section shall be: length (pin to pin) 2019 mm [79.5 in.]; width: 546 mm [21 1/2 in.]; height: 826 mm [32 1/2 in.].

 - c) Barrier sections shall be constructed in yellow, white or workzone safety orange colors for high visibility.

 - d) Each barrier section shall be equipped with a bent 1/8" steel piece recess in the top of the section, for suitable tensioning and compressive characteristics.

- e) Each barrier section shall be constructed to interact with an impacting vehicle.
- f) The ends of each barrier section shall be constructed with vertically aligned knuckles which interlock with those of abutting sections and accept a 51 mm [2 in.] dia. hollow steel connecting pin. The connecting pin shall be constructed to securely connect adjoining sections and their respective bent 1/8" steel pieces. A galvanized bolt, lock washer, and 102mm [4 in.] washer will retain the pin for suitable impact performance.
- g) Each barrier section shall be constructed with elevated forklift openings to allow for mechanical lifting when empty or full.
- h) Each barrier section shall be constructed with two 127 mm [5 in.] diameter quick fill openings with covers, and a 38 mm [1 1/2 in.] diameter rapid release gate valve to allow quick draining of the water ballast. A reflectorized fill level indicator shall be constructed in the top of each section to allow quick verification that the section is adequately full of water ballast.
- i) The back two barrier sections shall include an internal galvanized steel framework and four strap assemblies recessed into the ribbed sidewalls to provide additional rigidity during impacts. Empty weight: 64 kg [140 lb.]; water ballast: 549 liters [145 gallons]. Weight when filled shall be approximately 612kg (1350 lbs). Weight does not include strap assemblies or connections.
- j) The front two barrier sections shall not include an internal galvanized steel framework or four strap assemblies recessed into the ribbed sidewalls to ensure proper performance during impacts. Empty weight: 45 kg [99 lb.]; water ballast: 549 liters [145 gallons]. Weight when filled shall be approximately 595kg (1312 lbs).

3. ACZ-350 Transition Section
 - a) The transition section shall be constructed of galvanized steel.
 - b) The approximate physical dimensions of the transition section shall be: length (pin to pin) 510 mm [20 in.]; width: 621 mm [24.5 in.]; height: 813 mm [32 in.];
 - c) The section shall attached to the PCMB with two $\frac{3}{4}$ " B7 all thread rods, four flat washers, four lock washers, and four nuts, in addition to a connection pin and two threaded "U" shaped fasteners.

III. PERFORMANCE CRITERIA

- A. The ACZ-350 System is a narrow, non-redirective, gating crash cushion and shall have been tested and evaluated per the criteria set forth in the National Cooperative Highway Research Program Report 350 (NCHRP-350) in accordance with TL-3 criteria. An FHWA acceptance letter shall be available authorizing its use on the National Highway System.

IV. DESIGN AND SELECTION CRITERIA

- A. Design, selection, and placement of the ACZ-350 System should conform with applicable guidelines in:
 1. U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices", Washington, D.C. U.S. Government Printing Office, 2003 and all subsequent revisions.
 2. American Association of State Highway and Transportation Officials, "Roadside Design Guide", Washington, D.C. AASHTO, January 2002 and all subsequent revisions.
- B. Installation of the ACZ-350 System shall be accomplished in accordance with the recommendations of Energy Absorption Systems, Inc., and the ACZ-350 manual.