

BARRACUDA®
GENERAL SPECIFICATIONS

I. GENERAL

- A. The BARRACUDA shall be a highly portable and crashworthy longitudinal channelizer barricade especially suited for use as a temporary barricade, delineator, or to provide a means of visual direction in highway construction zones.
- B. The BARRACUDA shall provide portable traffic control.
- C. All elements, components, and subassemblies of the BARRACUDA, as well as optional accessories, shall be designed, manufactured, and/or supplied by Energy Absorption Systems, Inc., of Chicago, Illinois.

II. DESCRIPTION OF THE SYSTEM

- A. An installation of the BARRACUDA shall be constructed from a series of individual “**segments**”.
- B. Each “**segment**” shall be composed of the following:
 - 1. One barricade section.
 - a) Each barricade section shall be constructed of a lightweight, recyclable, virgin 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 sections shall be: length (pin to pin) 1981 mm [78 in.]; width: 533 mm [21 in.]; height: 813 mm [32 in.]; empty weight: 36 kg [80 lb.]; full weight: 610 kg [1350 lb.]; water ballast: 549 liters [145 gallons].
 - c) Standard colors of the barricade sections shall be white or work zone safety orange for high visibility. Yellow, light gray, and custom color barricade sections shall also be available.

- d) The ends of each barricade section shall be constructed with four vertically aligned knuckles which interlock with those of adjacent sections and which accept a 38 mm [1 ½ in.] dia. ABS connecting pin. The connecting pin shall be constructed to securely connect adjoining sections and their respective tension cables for suitable impact performance.
- e) Each barricade section shall be constructed with tri-beam ribbed sidewalls to interact with an impacting vehicle in a manner that resists vaulting and underriding.
- f) Each barricade section shall be constructed with elevated forklift openings to allow for mechanical lifting when empty or full.
- g) Each barricade section shall be constructed with one 76 mm [3 in.] diameter quick fill opening with covers, and a 38 mm [1 1/2 in.] diameter ABS drain plug to allow quick draining of the water ballast.
- h) Each barricade section shall be constructed with a flat top and bottom geometry such that a second and third section can neatly stack on top of the first for efficient transport and storage.

III. PERFORMANCE CRITERIA

- A. The BARRACUDA shall be fully tested as a Longitudinal Channelizer Barricade, and shall meet the recommended occupant risk evaluation criteria set forth in the National Cooperative Highway Research Program Report 350 (NCHRP 350) when properly installed according to the manufacturer's recommendations.

1. The BARRACUDA shall meet the criteria for NCHRP 350 Test Level 2 (TL-2) impact conditions for an 820 kg [1808 lb.] vehicle at 70 km/h [44 mph].
- B. For TL-2 impacts, detached debris shall not show potential for penetrating the vehicle occupant compartment or presenting a hazard to other traffic, pedestrians, or workers in a work zone.
- C. For TL-2 impacts, a vehicle impacting the BARRACUDA shall remain upright during and after the collision though moderate roll, pitch, and yaw may occur.
- D. For a TL-2 impact by an 820 kg automobile, the theoretical longitudinal impact velocity of an unrestrained front seat passenger upon impact with the interior of the vehicle shall be no more than 12 m/s [39.3 ft/s]. That theoretical longitudinal occupant impact velocity shall be calculated from the measured acceleration history of the vehicle during the impact, and shall be determined at the instant the passenger has moved forward 600 mm [23 5/8 in.] relative to the vehicle.
- E. For a TL-2 impact by an 820 kg automobile, the theoretical lateral impact velocity of an unrestrained front seat passenger upon impact with the interior of the vehicle shall be no more than 12 m/s [39.3 ft/s]. That theoretical lateral occupant impact velocity shall be calculated from the measured acceleration history of the vehicle during the impact, and shall be determined at the instant the passenger has moved laterally 300 mm [1 ft.] relative to the vehicle.
- F. For TL-2 impacts into the BARRACUDA, the highest 10 ms average vehicle accelerations in the longitudinal and lateral directions (with respect to the vehicle), subsequent to the instant of occupant impact with the vehicle interior as defined by NCHRP 350, shall be less than 20G's.

IV. DESIGN AND SELECTION CRITERIA

- A. Design, selection, and placement of the BARRACUDA 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, 1988 and all subsequent revisions.
 2. American Association of State Highway and Transportation Officials, "Roadside Design Guide", Washington, D.C. AASHTO, January 1996 and all subsequent revisions.
- B. Installation of the BARRACUDA shall be accomplished in accordance with the recommendations of Energy Absorption Systems, Inc., in the BARRACUDA® installation manual and application manual.