

PROCUREMENT SPECIFICATION

MODEL TT212E(M) MANUAL CABLE CRASH BEAM BOLLARD MOUNTED

1.0 SCOPE

This specification defines the procurement of a CABLE CRASH BEAM BARRIER, Model TT212E(M), consisting of a hinged rigid wire rope crash beam, counter weights, gas assisted counter balance struts, locking pin with padlock hasp, mounting hardware, cast in place supports, and options as defined herein.

2.0 SYSTEM CONFIGURATION

- 2.1 **Barrier Construction.** Barrier shall be an above grade assembly containing a hinged rigid wire rope crash beam counterbalanced for easy operation. When in the down position the beam shall present a formidable obstacle to approaching vehicles. Upon impact, the force shall first be absorbed by the rope beam assembly and then transmitted to the foundation bollards of the unit.
- 2.2 **Barrier Height.** Height of the Barrier shall nominally be 34 inches (864 mm) as measured from the roadway surface to the center line of the crash beam. Height can be varied to suit security threat analysis.
- 2.3 **Barrier Length.** Barrier can be optionally specified with lengths of 72 inches [1,8 M] to a maximum length of 312 inches [7,9 M]) as measured inside to inside (clear opening) of the foundation bollards.
- 2.4 **Finish.** The foundation base of the Barrier shall be asphalt emulsion coated for corrosion protection. Barrier top surface shall have a rust inhibiting painted surface. The wire rope shall be galvanized. The wire rope supporting tube shall be provided with yellow/black safety tape (alternating red/white safety tape).

3.0 OPERATION

- 3.1 **Manual Operation.** The Barrier shall be effectively counterbalanced to be capable of being raised or lowered with minimal manual effort.

4.0 PERFORMANCE

- 4.1 **Experience.** Barrier and auxiliary equipment shall be of a proven design. Manufacturer shall have 10 years documented experience with similar vehicle Barriers.
- 4.2 **Certifications.** The manufacturer shall certify that a detailed finite element structural analysis has been conducted on each Barricade configuration and that the results of that analysis supports the specified stopping capacity of the system as defined in paragraph

4.3.1. The analysis shall be based on underlying data gathered by the manufacturer from certified results of not less than ten successful full scale crash tests of similar, but not necessarily identical Barricade systems.

4.3 STOPPING CAPACITY.

4.3.1 Barrier shall provide excellent security and positive control of normal traffic in both directions by providing an almost insurmountable obstacle to non-armored or non-tracked vehicles. The Barrier system shall be designed to stop a vehicle attacking from either direction when the vehicle is within the weight and velocity characteristics as defined in paragraph 4.3.1.1. Damage to the Barrier system is probable at these levels.

4.3.1.1 The Barrier shall be capable of stopping a vehicle(s) weighing:

15,000 pounds at 30 mph (450,000 ft-lbs)

5.0 BEAM LOCKING METHOD

5.1 Manual Locking Pin. The Barrier shall be provided with a locking pin with padlock hasp for securing the Barrier in the down position. The padlock will be furnished by others.

6.0 QUALITY ASSURANCE PROVISIONS

6.1 Testing. Upon completion, the Barrier system will be fully tested in the manufacturer's shop. The following checks shall be made:

6.1.1 Identification. A nameplate with manufacturer's name, model number, serial number and year built shall be located at the hinged end structure.

6.1.2 Workmanship. The Barrier shall have a neat and workmanlike appearance.

6.1.3 Dimensions. Principle dimensions shall be checked against drawings and ordering information.

6.1.4 Finish. Coatings shall be checked against ordering information and shall be workmanlike in appearance.

7.0 PREPARATION FOR SHIPMENT

7.1 The Barrier system shall be crated or mounted on skids as necessary to prevent damage from handling. The shipping container(s) shall be of sufficient structural integrity to enable the assembly to be lifted and transported by overhead crane or forklift without failure.

8.0 DISCLAIMER

Please note - careful consideration must be devoted to the selection, placement and design of Cable Crash Beam Barrier installation. Just as in the case of any Barricade system, perimeter security device or security gate that blocks a roadway or drive, care must be taken to ensure that approaching vehicle as well as pedestrians are fully aware of the Barriers and their operation. Proper illumination, clearly worded warning signs, auxiliary devices such as semaphore gates, stop-go signal lights, audible warning devices, speed bumps, flashing lights, beacons, etc. should be considered. Delta has information available on many such auxiliary safety equipment not specifically listed herein. It is strongly recommended that an architect and or a traffic and or safety engineer be consulted prior to installation of a Barricade system. Delta will offer all possible assistance in designing the operating equipment, controls and the overall system but we are not qualified nor do we purport to offer either traffic or safety engineering information.

9.0 PROCUREMENT SOURCE

The TT212E(M) Cable Crash Beam Barrier is available from:

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