

TECHNICAL
BRIEF

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Steel Reactive Tension System Quickchange Moveable Barrier
(SRTS-QMB)**Specification**

The Steel Reactive Tension System Quickchange Moveable Barrier (SRTS-QMB) is designed to meet the rigid requirements of deployment in moveable barrier applications where positive separation technology is required and where lane widths and lateral space are limited.

Description

The barrier elements shall be 32-1/2" (825 mm) high, 39.375" (1000 mm) in length, and 13" (330 mm) wide. The profile is 13" (330 mm) wide except for a heavy steel base, which shall be 24" (610 mm) wide. The barrier shall allow for the incorporation of a lane line at the intersection of the base and the vertical section. The small protrusion of the base shall provide an audible signal upon contact by an errant vehicle's tire (Attachment Figure 1, BSI-1008060-PD). The individual elements shall weigh approximately 1575 pounds (715kg) and shall rest on four rubber feet to increase the coefficient of friction between the barrier element and the road surface.

The barrier elements are connected in an end-to-end fashion with tensioning hinge mechanisms and steel pins that are at least 1.3 " (33mm) in diameter. The minimum length of SRTS-QMB to create a longitudinal barrier is 100 feet (30 meters). Each end of the SRTS-QMB must be anchored to the roadway with an anchorage that is capable of reacting a 100,000-pound (450,000 Newton) tensile load in the barrier in order to perform with the minimum deflection characteristics. If the ends of the SRTS-QMB are not anchored to the roadway, a minimum length of 80 sections must be deployed upstream of the point where minimum deflection is required. Minimum

deflection characteristics for the SRTS-QMB system are shown in the attached RTS-QMB Deflection Curve.

Materials

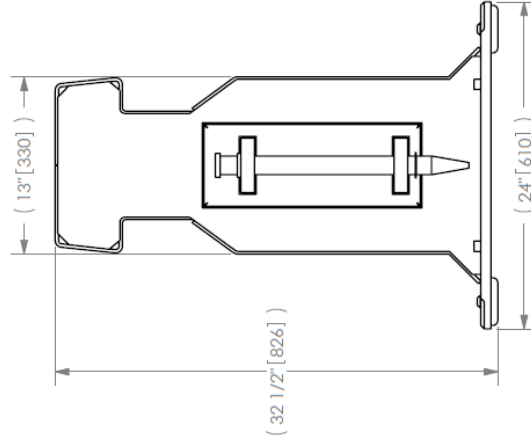
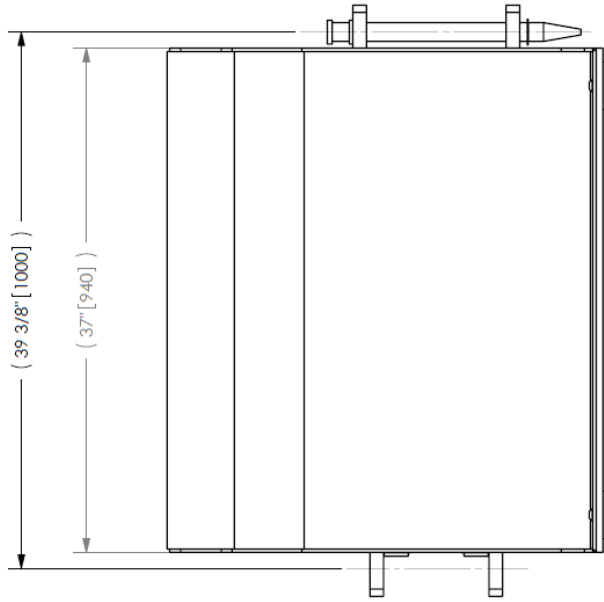
The primary elements of the SRTS-QMB shall be constructed of ASTM, A-36 steel and high strength concrete. All external steel shall be hot dipped galvanized in accordance with ASTM, A 123. All structural welds shall be continuous. The shell shall be constructed of 0.25" (6.4 mm) A-36 steel.

System Requirements

The SRTS-QMB system, when installed in accordance with the manufacturer's instructions, shall function as a longitudinal barrier and be able to resist the impact of vehicles in accordance with the National Cooperative Highway Research Program Report 350 (NCHRP 350) Test Level 3.

The system shall minimize lateral displacement upon impact. The system shall minimize clearance between barrier hinges, resulting in a nominal metal to metal connection. During impact by an errant vehicle, the tension in the barrier system resists the penetration of the vehicle and limits the lateral displacement of the barrier.

Reactive Tension System-Variable Length Barriers (RTS-VLBs) shall be added to the length of the SRTS-QMB installation in order to allow a smooth lateral transfer through the Barrier Transfer Machine. The number and location of RTS-VLB units that shall be required will vary depending on specifics of the application, number and degree of curves, changes in elevation, etc.



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APPROVALS


DRAWN BY: DF
DRAWN DATE: 8/17/10
APPROVED BY:
APPROVED DATE:

INTERSECT OVER POLYMER BOND
TOLERANCE PER ALLOWANCE
Y14.5-1994

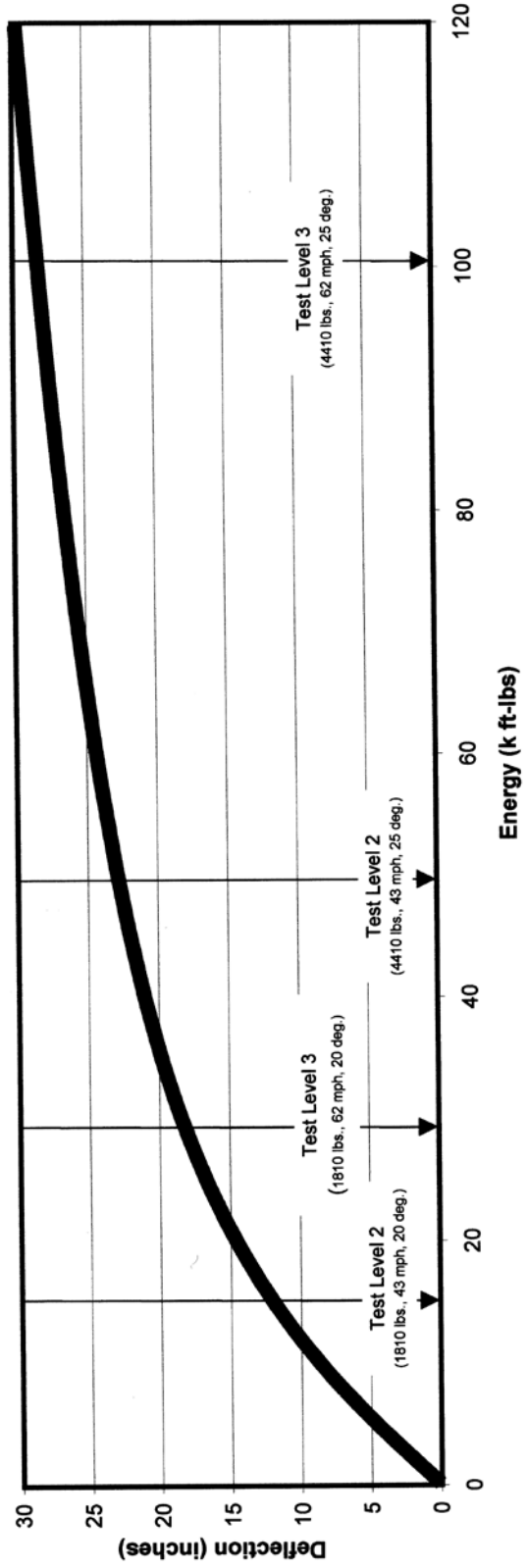
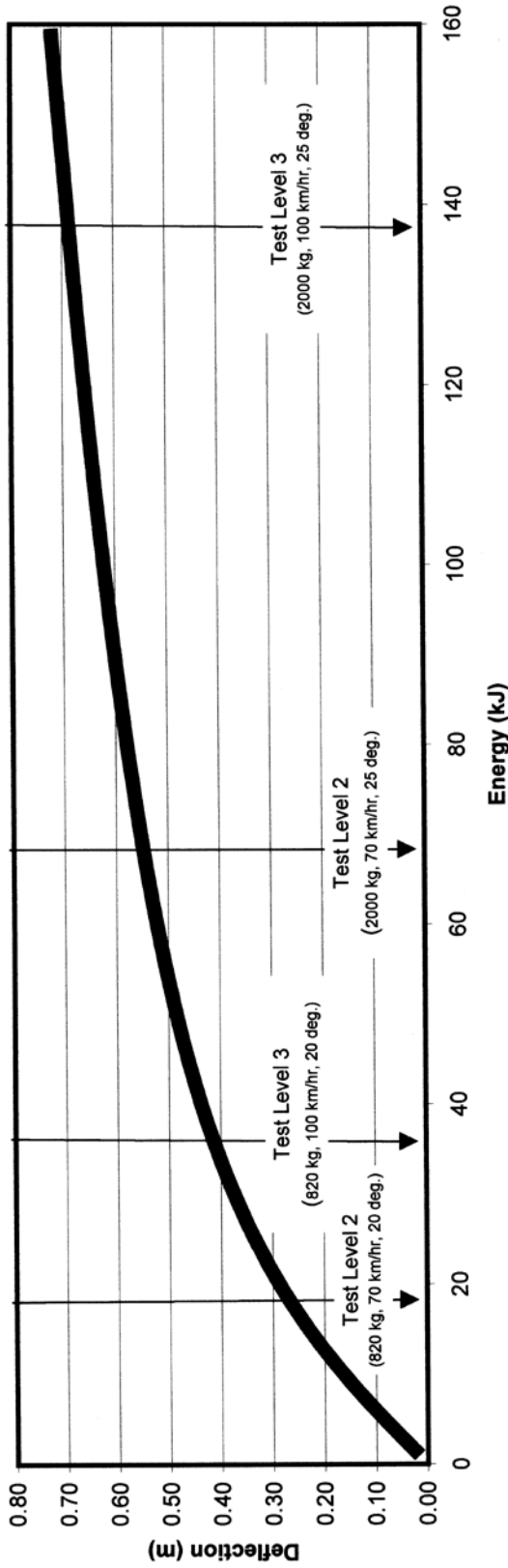
THIRD ANGLE PROJECTION



DO NOT SCALE DRAWING

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<p>BARRIER SYSTEMS A LINCOLN TRANSPORTATION SOLUTIONS COMPANY</p>		<p>ASSEMBLY, NARROW BARRIER, 13"</p>	
<p>REV.</p>	<p>SIZE</p>	<p>DWG NO.</p>	<p>REV.</p>
<p>1</p>	<p>B</p>	<p>BSI-1008060-PD</p>	<p>-</p>
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RTS - QMB Deflection Curve



Based on NCHRP Report 350 testing for Reactive Tension QMB system with foundation or mass anchorage