

SPECIFICATIONS

Box beam rail elements shall be square tubes manufactured from either ASTM A 500 Grade B cold-rolled tubing, ASTM A 501 hot-rolled tubing or automotive Rollover Protective Steel (ROPS). ASTM A 500 Grade B tubing is generally the most easily and economically obtained section, but there have been reported problems with the steel fracturing at low temperatures. When using ASTM A 500 Grade B steel, it is highly recommended that the Drop-Weight-Tear test (ASTM E 436) be performed to ensure that each lot of material has adequate fracture toughness, especially in regions that experience prolonged cold weather. ASTM A 501 tubing and ROPS tubing can generally be used without the need for the Drop-Weight-Tear test.

The beams should be hot-dip zinc coated according to AASHTO M 111 (ASTM A 123).

Inertial properties shown below are based on the gross cross-section dimensions without a reduction for splice and bolt holes.

| Designator | Area in ² [10 ³ mm ²] | I _x in ⁴ [10 ⁶ mm ⁴] | I _y in ⁴ [10 ⁶ mm ⁴] | S _x in ³ [10 ³ mm ³] | S _y in ³ [10 ³ mm ³] |
|------------|--|--|--|--|--|
| RBM01 | 4.34 [2.8] | 23.59 [9.82] | 23.59 [9.82] | 7.87 [129] | 7.87 [129] |

Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance and accepted manufacturing practices.

INTENDED USE

This box beam is used as a rail element in SGR03 guardrail. The box beam is attached to the PSE08 post using the FPP01 bracket and a 7-7/8-inch [200-mm] long FBX08a bolt and nut and two FWC08a washers.

SQUARE BOX BEAM RAIL

RBM01

SHEET NO.

DATE

2 of 2

7/18/2005