

TABLE 1078-8 TOLERANCES FOR BOX BEAMS (Refer to Figure 1078-4)	
Dimension	Tolerance
Length (A)	$\pm 1"$
Width (overall) (B)	$\pm 1/4"$
Depth (overall) (C)	$+ 1/4"$
Variation from specified plan end squareness or skew (D)	$\pm 1/8"$ per 12" width, $\pm 1/2"$ max
Variation from specified elevation end squareness or skew (E)	$\pm 1/8"$ per 12", $\pm 1/2"$ max
Sweep, for member length (F) up to 40 ft	$\pm 1/4"$
Sweep, for member length (F) 40 to 60 ft	$\pm 3/8"$
Sweep, for member length (F) greater than 60 ft	$\pm 1/2"$
Differential camber between adjacent members (G):	$1/4"$ per 10 ft., $3/4"$ max
Local smoothness of any surface (H)	$1/4"$ in 10 ft
Position of strands (K)	$\pm 1/4"$
Longitudinal Position of blockout (N)	$\pm 1"$
Position of dowel holes (o1)	$\pm 1/4"$
Position of sleeves cast in beams, in both horizontal and vertical plane (o2)	$\pm 1/2"$
Position of void (P)	$\pm 3/8"$
Bearing area – deviation from plane surface	$\pm 1/16"$
Width - Any one span	Plan width + $1/8"$ per joint
Width – Differential of adjacent spans in the same structure	$1/2"$

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SECTION 1079 BEARINGS AND BEARING MATERIALS

1079-1 PREFORMED BEARING PADS

Provide preformed bearing pads composed of multiple layers of 8 oz/sy cotton duck impregnated and bound with high quality natural rubber, or equally suitable materials approved by the Engineer, that are compressed into pads of uniform thickness. Ensure that the thickness of the preformed bearing pads is 3/16 inch with a tolerance of $\pm 1/16$ inch. Use cotton duck that meets Military Specification MIL-C882-D for 8 oz/sy cotton army duck or equivalent. Provide enough pads as to produce the required thickness after compressing and vulcanizing. Ensure that the finished pads withstand compressive loads perpendicular to the plane of the laminations of not less than 10,000 psi without detrimental extrusion or reduction in thickness.

Furnish a Type 3 certification in accordance with Article 106-3 certifying that the preformed bearing pads meet this Specification.

Internal holding pins are required for all shim plates when the contract plans indicate the structure contains the necessary corrosion protection for a corrosive site.

Repair laminated (reinforced) bearing pads utilizing external holding pins via vulcanization. Submit product data for repair material and a detailed application procedure to the Materials and Tests Unit for approval before use and annually thereafter.

Section 1079

1 **1079-2 ELASTOMERIC BEARINGS**

2 **(A) General**

3 Provide elastomeric bearings that meet the requirements of AASHTO M251, except as
4 specified herein.

5 Manufacturers shall be pre-qualified by the Department and shall submit working
6 drawings for approval. Refer to Subarticles 1079-2(D) and 1079-2(E). Furnish a Type 3
7 certification in accordance with Article 106-3 certifying that elastomeric bearings satisfy
8 this Specification and all design criteria. Include the lot number, description and test
9 results in the certification.

10 **(B) Elastomer Properties**

11 The elastomer for all bearings shall be classified as Grade 3.

12 The shear modulus of the elastomer for laminated (reinforced) bearings shall be 160 psi,
13 unless otherwise noted in the plans.

14 Provide Grade 50 or Grade 60 durometer hardness elastomer in all (unreinforced)
15 bearings, unless otherwise noted in the plans.

16 **(C) Testing**

17 The optional test procedures of AASHTO M 251 are not required, except as specified
18 herein.

19 Determine the shear modulus of the elastomer for laminated (reinforced) bearings in
20 accordance with ASTM D4014.

21 At the Manufacturer's option, plain (unreinforced) bearings may be tested using the
22 methods of Appendices X1 and X2 of AASHTO M 251.

23 Test at least two bearings per lot or as directed by the Engineer. Define a "lot" as a group
24 of 100 or less bearings with or without holes or slots, which are:

25 (1) Manufactured in a reasonably continuous manner from the same batch of elastomer
26 and cured under the same conditions, and

27 (2) Of the same type (plain or laminated) and of similar size (no dimensions shall vary
28 by more than 40%).

29 A lot may include bearings from multiple projects and purchasers.

30 **(D) Working Drawings**

31 Submit six sets of detailed fabrication drawings of laminated (reinforced) bearings to the
32 Engineer for review, comments and acceptance. Show complete details and all material
33 specifications. Clearly identify any proposed deviations from details shown in the plans
34 or requirements of the Standard Specifications. Obtain drawing approval before
35 manufacturing of the bearings.