



Standard Specification for Plain and Steel-Laminated Elastomeric Bearings for Bridges¹

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1. Scope

1.1 This specification covers bearings, which consist of all elastomer or of alternate laminates of elastomer and steel, when the function of the bearings is to transfer loads or accommodate relative movement between a bridge superstructure and its supporting structure, or both.

1.2 The values stated in SI units are to be regarded as the standard.

NOTE 1—The words “elastomer” or “elastomeric” will be used interchangeably with the word “rubber” in this specification.

1.3 The following safety hazards caveat pertains only to the test methods portion, Section B, of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- A36/A36M Specification for Carbon Structural Steel
- D395 Test Methods for Rubber Property—Compression Set
- D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
- D518 Test Method for Rubber Deterioration—Surface Cracking (Withdrawn 2007)³
- D573 Test Method for Rubber—Deterioration in an Air Oven
- D832 Practice for Rubber Conditioning For Low Temperature Testing

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

- D1149 Test Methods for Rubber Deterioration—Cracking in an Ozone Controlled Environment
- D1415 Test Method for Rubber Property—International Hardness
- D1418 Practice for Rubber and Rubber Latices—Nomenclature
- D2000 Classification System for Rubber Products in Automotive Applications
- D2137 Test Methods for Rubber Property—Brittleness Point of Flexible Polymers and Coated Fabrics
- D2240 Test Method for Rubber Property—Durometer Hardness
- D3183 Practice for Rubber—Preparation of Pieces for Test Purposes from Products
- E4 Practices for Force Verification of Testing Machines

3. Terminology

3.1 Definitions:

3.1.1 *design load*—the mean compressive stress applied to the area of the steel laminate.

3.1.2 *external load plate*—a steel plate bonded to the top or bottom elastomeric surface of a bearing, or both.

3.1.3 *lot*—unless otherwise specified in the contract or purchase order, a lot shall consist of a single type of bearing, of the same design and material, submitted for inspection at the same time.

3.1.4 *plain elastomeric bearing pad*—a bearing that consists only of elastomeric material.

3.1.5 *plain elastomeric sandwich bearing*—a bearing that consists of a single layer of elastomeric material bonded to one or two external load plates (3.1.2).

3.1.6 *steel-laminated elastomeric bearing*—a bearing molded of elastomeric material with one or more steel laminates embedded in and bonded to it, and to which one or two external load plates (3.1.2) may be bonded.

4. Classification

4.1 The bearings are furnished in four types as follows:

- 4.1.1 Plain Elastomeric Bearing Pad.
- 4.1.2 Plain Elastomeric Sandwich Bearing.
- 4.1.3 Steel-Laminated Elastomeric Bearing.