



Standard Specification for Balls, Bearings, Ferrous and Nonferrous for Use in Bearings, Valves, and Bearing Applications¹

This standard is issued under the fixed designation F2215; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This specification covers requirements for ferrous and nonferrous inch balls. The balls covered in this specification are intended for use in bearings, bearing applications, check valves, and other components using balls.

1.2 This is a general specification. The individual item requirements shall be as specified herein in accordance with the MS sheet standards. In the event of any conflict between requirements of this specification and the MS sheet standards, the latter shall govern.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 This specification contains many of the requirements of MIL-B-1083, which was originally developed by the Department of Defense and maintained by the Defense Supply Center Richmond.

1.5 *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 requirements prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- A108 Specification for Steel Bar, Carbon and Alloy, Cold-Finished
- A276 Specification for Stainless Steel Bars and Shapes
- A295 Specification for High-Carbon Anti-Friction Bearing Steel

¹ This specification is under the jurisdiction of ASTM Committee F34 on Rolling Element Bearings and is the direct responsibility of Subcommittee F34.01 on Rolling Element.

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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.

B21/B21M Specification for Naval Brass Rod, Bar, and Shapes

B124/B124M Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes

B276 Test Method for Apparent Porosity in Cemented Carbides

B283 Specification for Copper and Copper-Alloy Die Forgings (Hot-Pressed)

D3951 Practice for Commercial Packaging

E18 Test Methods for Rockwell Hardness of Metallic Materials

E112 Test Methods for Determining Average Grain Size

E381 Method of Macroetch Testing Steel Bars, Billets, Blooms, and Forgings

E384 Test Method for Knoop and Vickers Hardness of Materials

2.2 ASTM Adjunct:³

ADJE0381 ASTM Adjuncts: Photographs for Rating Macroetched Steels (3 Plates) Plate I, Plate II, and Plate III

2.3 ABMA Standard:⁴

ABMA-STD-10 Metal Balls (Inactive Specification)

2.4 ANSI Standards:⁵

ANSI B46.1 Surface Texture (Surface Roughness, Waviness and Lay)

ANSI B89.3.1 Sampling Procedures and Tables for Inspection by Attributes

ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes

2.5 Federal Standards:⁶

FED-STD-151 Metals, Test Methods

QQ-N-286 Specification for Nickel-Copper Aluminum Alloy, Wrought

³ Available from ASTM International Headquarters. Order Adjunct No. ADJE0381

⁴ Available from the Anti-Friction Bearing Manufacturers' Association, Inc., 1101 Connecticut Ave., N.W., Suite 700, Washington, DC 20036.

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁶ DLA Document Services Building 4/D 700 Robbins Avenue Philadelphia, PA 19111-5094 <http://quicksearch.dla.mil/>