



Designation: B 439 – 00^{ε1}

Standard Specification for Iron-Base Sintered Bearings (Oil-Impregnated)¹

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

^{ε1} NOTE—Section 9.2 was editorially corrected in May 2003.

¹ This specification is under the jurisdiction of ASTM Committee B-9 B09 on Metal Powders and Metal Powder Products and is the direct responsibility of Subcommittee B09.04 on Bearings.

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1. Scope

1.1 This specification covers sintered metal powder, oil-impregnated, bearings of four iron-base compositional grades:

Grades 1 and 2—iron-carbon

Grades 3 and 4—iron-copper

1.2 The values stated in inch-pound units are to be regarded as the standard. The metric equivalents of inch-pound units may be approximate.

2. Referenced Documents

2.1 *ASTM Standards:*

B 328 Test Method for Density, Oil Content, and Interconnected Porosity of Sintered Powder Metal Structural Parts and Oil-Impregnated Bearings²

E 9 Test Methods of Compression Testing of Metallic Materials at Room Temperature³

3. Ordering Information

3.1 Orders for material under this specification shall include the following information:

3.1.1 Grade (Section 5),

3.1.2 Density (6.1),

3.1.3 Dimensions, and

3.1.4 Certification (12.1).

4. Manufacture

4.1 Bearings shall be made by briquetting and sintering metal powders, with or without sizing, so as to produce finished parts conforming to the requirements of this specification.

5. Chemical Requirements

5.1 The material shall conform to the requirements as to the chemical composition prescribed in Table 1.

6. Physical Properties

6.1 *Density*—The density of bearings supplied fully impregnated with lubricant shall be within the limits prescribed in Table 2.

6.2 *Oil Content*—Oil content of bearings shall not be less than that shown in Table 2.

6.3 *Radial Crushing Strength*—Radial crushing strength shall not be less than the value calculated as follows:

$$P = KLT^2/(D - T) \quad (1)$$

² *Annual Book of ASTM Standards*, Vol 02.05.

³ *Annual Book of ASTM Standards*, Vol 03.01.