



Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines¹

This standard is issued under the fixed designation B 16/B 16M; 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 Department of Defense.

1. Scope *

1.1 This specification establishes the requirements for free-cutting brass rod, bar, wire, and shapes of any specified cross section produced from Copper Alloy UNS No. C36000 suitable for high-speed screw machining applications and moderate thread rolling.

1.2 The values stated in either inch-pound units or in SI units are to be regarded separately as the standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system shall be used independent of the other. Combining values from the two systems may result in nonconformance with the specification.

2. Referenced Documents

2.1 ASTM Standards:

B 249 Specification for General Requirements for Wrought Copper and Copper-Alloy Rod, Bar, Shapes, and Forgings²

B 249M Specification for General Requirements for Wrought Copper and Copper-Alloy Rod, Bar Shapes and Forgings [Metric]²

B 250 Specification for General Requirements for Wrought Copper-Alloy Wire²

B 250M Specification for General Requirements for Wrought Copper-Alloy Wire²

B 601 Practice for Temper Designations for Copper and Copper Alloys—Wrought and Cast³

E 8/E 8M Test Methods for Tension Testing of Metallic Materials³

E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials³

E 478 Test Methods for Chemical Analysis of Copper Alloys⁴

3. Ordering Information

3.1 Contracts or purchase orders for product furnished under this specification shall contain the following information:

3.1.1 ASTM specification designation and year of issue (B 16/B 16M-XX).

3.1.2 Copper Alloy UNS No. designation (C36000, see Section 6 and Table 1).

3.1.3 Temper (see Section 7 and Tables 2 and 3).

3.1.4 Product cross section form (for example, round, hexagonal, square, etc.).

3.1.5 Dimensions (see Section 9).

3.1.6 How furnished: straight lengths or coils (see 5.2).

3.1.7 Edge contours (see Section 9).

3.1.8 Quantity; total weight, footage, or number of pieces for each size.

3.1.9 When product is purchased for applications requiring thread rolling (see 1.1, Tables 2 and 3).

3.1.10 When product is purchased for agencies of the U.S. Government (see Section 11).

3.2 The following options are available and shall be specified at the time of placing the order when required:

3.2.1 Tensile test for product ½ in. [12 mm] and over (see 8.2.1).

3.2.2 Certification (refer to Specifications B 249 and B 249M or B 250 and B 250M).

3.2.3 Mill Test Report (refer to Specifications B 249 and B 249M or B 250 and B 250M).

4. General Requirements

4.1 The following sections of Specifications B 249, B 249M (rod, bar, and shapes), B 250, and B 250M (wrought copper alloy wire) constitute a part of this specification.

4.1.1 Terminology,

4.1.2 Materials and Manufacture,

4.1.3 Workmanship, Finish, and Appearance,

4.1.4 Sampling,

4.1.5 Number of Tests and Retest,

4.1.6 Specimen Preparation,

4.1.7 Test Methods,

4.1.8 Significance of Numerical Limits,

¹ This specification is under the jurisdiction of ASTM Committee B-5 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.02 on Rod, Bar, Shapes, Wire, and Forgings.

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² Annual Book of ASTM Standards, Vol 02.01.

³ Annual Book of ASTM Standards, Vol 03.01.

⁴ Annual Book of ASTM Standards, Vol 03.06.