Designation: B 441 – 02

Standard Specification for Copper-Cobalt-Beryllium and Copper-Nickel-Beryllium Rod and Bar (UNS Nos. C17500 and C17510)[1]

This standard is issued under the fixed designation B 441; 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 copper-cobalt-beryllium alloy (UNS No. C17500), and copper-nickel-beryllium alloy (UNS No. C17510) rod and bar in straight lengths.

1.2 The intent is to provide a system of interchangeable alloys.

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

1.4 The following hazard statement pertains only to the test method portions 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:*

B 193 Test Method for Resistivity of Electrical Conductor Materials[2]

B 194 Specification for Copper-Beryllium Alloy Plate, Sheet, Strip and Rolled Bar[3]

B 249 Specification for General Requirements for Wrought Copper and Copper-Alloy Rod, Bar, Shapes and Forgings[3]

B 601 Classification for Temper Designations for Copper and Copper Alloys—Wrought and Cast[3]

B 846 Terminology for Copper and Copper Alloys[3]

E 8 Test Methods for Tension Testing of Metallic Materials[4]

E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials[4]

E 1004 Practice for Determining Electrical Conductivity Using the Electromagnetic (Eddy-Current) Method[5]

3. General Requirements

3.1 The following sections of Specification B 249 constitute a part of this specification:

3.1.1 Terminology,
3.1.2 Materials and Manufacture,
3.1.3 Dimensions and Permissible Variations,
3.1.4 Workmanship, Finish, and Appearance,
3.1.5 Sampling,
3.1.6 Number of Tests and Retests,
3.1.7 Specimen Preparation,
3.1.8 Test Methods,
3.1.9 Significance of Numerical Limits,
3.1.10 Inspection,
3.1.11 Rejection and Rehearing,
3.1.12 Certification,
3.1.13 Test Report,
3.1.14 Packaging and Package Marking, and
3.1.15 Supplementary Requirements.

3.2 In addition, when a section with a title identical to one of those referenced in 3.1 appears in this specification, it contains additional requirements that supplement those appearing in Specification B 249.

4. Terminology

4.1 For definition of terms related to copper and copper alloys, refer to Terminology B 846.

5. Ordering Information

5.1 Include the following information in orders for product:

5.1.1 ASTM designation and year of issue,
5.1.2 Copper alloy designation,
5.1.3 Temper (Section 7 and Table 1 and Table 2),
5.1.4 Form of product (cross section such as round, hexagonal, octagonal, rectangular, or square),
5.1.5 Dimensions (diameter or distance between parallel surfaces),

[1] This practice is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.02 on Rod, Bar, Wire, Shapes, and Forgings.

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[2] *Annual Book of ASTM Standards*, Vol 02.03.

[3] *Annual Book of ASTM Standards*, Vol 02.01.

[4] *Annual Book of ASTM Standards*, Vol 03.01.

[5] *Annual Book of ASTM Standards*, Vol 03.03.

***A Summary of Changes section appears at the end of this standard.**