



Standard Specification for Copper-Beryllium Alloy Wire¹

This standard is issued under the fixed designation B197/B197M; 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 establishes the requirements for copper-beryllium alloy wire in coils, spools, or other than straight lengths, of any uniform cross section. Copper Alloy UNS Nos. C17200 and C17300² are included.

1.2 Unless otherwise required, Copper Alloy UNS No. C17200 shall be the alloy furnished whenever Specification B197/B197M is specified without any alloy designation.

1.3 The values stated in either inch-pounds or 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 independently of the other. Combining values from the two systems may result in nonconformance with the specification.

1.4 The following safety hazard caveat pertains only to the test methods described in this specification:

1.4.1 *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:³

B194 Specification for Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar

B250/B250M Specification for General Requirements for Wrought Copper Alloy Wire

B601 Classification for Temper Designations for Copper and Copper Alloys—Wrought and Cast

B846 Terminology for Copper and Copper Alloys

E8 Test Methods for Tension Testing of Metallic Materials

E8M Test Methods for Tension Testing of Metallic Materials [Metric] (Withdrawn 2008)⁴

E112 Test Methods for Determining Average Grain Size

E527 Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

3. General Requirements

3.1 The following sections of Specification **B250/B250M** constitute a part of this specification:

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

3.2 In addition, when a section with a title identical to that referenced in 3.1 above, appears in this specification, it contains additional requirements which supplement those appearing in Specification **B250/B250M**.

4. Terminology

4.1 For definitions of terms related to copper and copper alloys, refer to Terminology **B846**.

4.2 Definitions of Terms Specific to This Standard:

4.2.1 *grain count*—the number of grains per stock thickness.

¹ This specification 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 The UNS system for copper and copper alloys (see Practice **E527**) is a simple expansion of the former standard designation system accomplished by the addition of a prefix “C” and a suffix “00.” The suffix can be used to accommodate composition variations of the base alloy.

³ 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.

⁴ The last approved version of this historical standard is referenced on www.astm.org.