



Designation: B 197/B 197M – 99

Standard Specification for Copper-Beryllium Alloy Wire¹

This standard is issued under the fixed designation B 197/B 197M; 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-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 B 197 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 *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 The following documents in the current issue of the Book of Standards form a part of this specification to the extent referenced herein:

2.2 ASTM Standards:

B 194 Specification for Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar³

B 250 Specification for General Requirements for Wrought Copper-Alloy Wire³

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

B 846 Standard Terminology for Copper and Copper Alloys³

E 8 Test Methods for Tension Testing of Metallic Materials⁴

E 112 Test Methods for Determining Average Grain Size⁴
E 527 Practice for Numbering Metals and Alloys (UNS)⁵

3. General Requirements

3.1 The following sections of Specification B 250 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 B 250.

4. Terminology

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

4.2 Definition of Term Specific to This Standard:

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

5. Ordering Information

5.1 Orders for products should include the following information:

- 5.1.1 ASTM specification designation and year of issue,
- 5.1.2 Copper (Alloy) UNS No. designation,
- 5.1.3 Temper (Section 7),
- 5.1.4 Dimensions, diameter, or distance between parallel surfaces, and length if applicable,

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 E 527) 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 *Annual Book of ASTM Standards*, Vol 02.01.

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

⁵ *Annual Book of ASTM Standards*, Vol 01.01.

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