



Standard Specification for Copper Alloy Continuous Castings¹

This standard is issued under the fixed designation B505/B505M; 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 requirements for continuously cast rod, bar, tube, and shapes produced from copper alloys with nominal compositions as listed in [Table 1](#).²

1.2 Castings produced to this specification may be manufactured for and supplied from stock. In such cases the manufacturer shall maintain heat traceability to specific manufacturing date and chemical analysis.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

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 ASTM Standards:³

[B208 Practice for Preparing Tension Test Specimens for Copper Alloy Sand, Permanent Mold, Centrifugal, and Continuous Castings](#)

[B824 Specification for General Requirements for Copper Alloy Castings](#)

[B846 Terminology for Copper and Copper Alloys](#)

¹ This specification is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.05 on Castings and Ingots for Remelting.

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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.

[E8/E8M Test Methods for Tension Testing of Metallic Materials](#)

[E10 Test Method for Brinell Hardness of Metallic Materials](#)

[E18 Test Methods for Rockwell Hardness of Metallic Materials](#)

[E255 Practice for Sampling Copper and Copper Alloys for the Determination of Chemical Composition](#)

[E527 Practice for Numbering Metals and Alloys in the Unified Numbering System \(UNS\)](#)

3. Terminology

3.1 For definitions of terms related to copper and copper alloys, refer to Terminology [B846](#).

4. General Requirements

4.1 The following sections of Specification [B824](#) form a part of this specification. The definition of a casting lot as defined in Section [12](#), Sampling, takes precedence over Specification [B824](#).

- 4.1.1 Terminology (Section 3),
- 4.1.2 Other Requirements (Section 7),
- 4.1.3 Workmanship, Finish, and Appearance (Section 9),
- 4.1.4 Number of Tests and Retests (Section 11),
- 4.1.5 Specimen Preparation (Section 12),
- 4.1.6 Test Methods (Section 13),
- 4.1.7 Significance of Numerical Limits (Section 14),
- 4.1.8 Inspection (Section 15),
- 4.1.9 Rejection and Rehearing (Section 16),
- 4.1.10 Certification (Section 17),
- 4.1.11 Test Report (Section 18),
- 4.1.12 Product Marking (Section 19),
- 4.1.13 Packaging and Package Marking (Section 20),
- 4.1.14 Keywords (Section 21), and
- 4.1.15 Supplementary Requirements.

5. Ordering Information

5.1 Include the following information in orders for product:

5.1.1 ASTM designation and year of issue (for example, B505/B505M – 04),

5.1.2 Copper Alloy UNS No. (for example, C93200), including HT if heat treatment is required.

5.1.3 Condition ([Table 9](#)) and (as cast, heat treated, and so forth),

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