



Standard Specification for Seamless Copper Alloy Pipe and Tube¹

This standard is issued under the fixed designation B315; 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 specification² establishes the requirements for seamless, copper alloy pipe and tube in nominal pipe sizes, both regular and extra strong, and seamless tube in straight lengths for general engineering purposes. Pipe and tube are produced in the copper alloy UNS Numbers: C61300, C61400, C63020, C65100, and C65500.

NOTE 1—Inquiry should be made of the manufacturer or supplier concerning the availability of product in a specific alloy.

1.2 Values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 The following safety caveat pertains only to the test method(s) described in 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:³

B846 Terminology for Copper and Copper Alloys

E8/E8M Test Methods for Tension Testing of Metallic Materials

E18 Test Methods for Rockwell Hardness of Metallic Materials

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E54 Test Methods for Chemical Analysis of Special Brasses and Bronzes (Withdrawn 2002)⁴

E62 Test Methods for Chemical Analysis of Copper and Copper Alloys (Photometric Methods) (Withdrawn 2010)⁴

E243 Practice for Electromagnetic (Eddy Current) Examination of Copper and Copper-Alloy Tubes

E255 Practice for Sampling Copper and Copper Alloys for the Determination of Chemical Composition

E478 Test Methods for Chemical Analysis of Copper Alloys

3. Terminology

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

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *specially cleaned*—sufficiently free of oxides as to exhibit the golden color associated with the alloy.

4. Ordering Information

4.1 Include the following specified choices when placing orders for product under this specification, as applicable:

4.1.1 ASTM Designation and year of issue (for example B315 – XX),

4.1.2 Copper Alloy (Section 6, Table 1),

4.1.2.1 Whether the product of copper alloy C61300 is to be subsequently welded (see Table 1 and Footnote B),

4.1.3 Temper (Section 7),

4.1.4 Dimensions, Diameter, and Wall Thickness:

4.1.4.1 Pipe size regular (Table 3),

4.1.4.2 Pipe size, extra-strong (Table 3),

4.1.4.3 Tube diameter (Table 9),

4.1.4.4 Tube wall thickness (Table 6, Table 7, or Table 8),

4.1.4.5 Length (Table 10 or Table 11),

4.1.4.6 When copper alloy UNS No. C63020 is ordered under this specification, tube diameter, wall thickness, length, sizes, and tolerances shall be a part of the purchase order as agreed upon between the supplier and the purchaser.

4.1.5 Quantity or total length of each size,

4.1.6 Finish (11.2 and 11.3), and

¹ This specification is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.04 on Pipe and Tube.

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² For ASME Boiler and Pressure Vessel Code applications see related Specification SB315 in Section II of that Code.

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.