



Standard Specification for Seamless Copper Tube in Coils¹

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1. Scope*

1.1 This specification establishes the requirements for seamless copper tube in coils, suitable for use in refrigeration and air conditioning or other uses, such as oil lines and gasoline lines.

1.2 *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 that are provided for information only and are not considered standard.

1.3 The tube shall be produced of the following coppers. Unless otherwise specified, tubes made from any one of these coppers may be supplied:

Copper Alloy UNS No.	Previously Used Designation	Type of Copper
C10200	OF	Oxygen-free without residual deoxidants ^A
C10300	...	Oxygen-free, extra low phosphorus ^A
C10800	...	Oxygen-free, low phosphorus ^A
C12000	DLP	Phosphorized, low residual phosphorus
C12200	DHP	Phosphorized, high residual phosphorus

^A See Classification B224.

1.4 The following safety hazards caveat pertains to the test method portion, Section 17, 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:²

- B153 Test Method for Expansion (Pin Test) of Copper and Copper-Alloy Pipe and Tubing
- B170 Specification for Oxygen-Free Electrolytic Copper—Refinery Shapes

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 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.

- B193 Test Method for Resistivity of Electrical Conductor Materials
- B224 Classification of Coppers
- B251 Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube
- B577 Test Methods for Detection of Cuprous Oxide (Hydrogen Embrittlement Susceptibility) in Copper
- B601 Classification for Temper Designations for Copper and Copper Alloys—Wrought and Cast
- B846 Terminology for Copper and Copper Alloys
- E2 Methods of Preparation of Micrographs of Metals and Alloys (Including Recommended Practice for Photography As Applied to Metallography); Replaced by E 883 (Withdrawn 1983)³
- E3 Guide for Preparation of Metallographic Specimens
- 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
- E53 Test Method for Determination of Copper in Unalloyed Copper by Gravimetry
- E62 Test Methods for Chemical Analysis of Copper and Copper Alloys (Photometric Methods) (Withdrawn 2010)³
- E112 Test Methods for Determining Average Grain Size
- 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
- E2575 Test Method for Determination of Oxygen in Copper and Copper Alloys

3. General Requirements

3.1 The following sections of Specification B251 constitute a part of this specification:

- 3.1.1 Sampling,
- 3.1.2 Number of tests and retests,
- 3.1.3 Dimensions and permissible variations,
- 3.1.4 Test specimens, and
- 3.1.5 Significance of numerical limits.

³ The last approved version of this historical standard is referenced on www.astm.org.

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