



Standard Specification for Seamless Copper Water Tube¹

This standard is issued under the fixed designation B88; 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 seamless copper water tube suitable for general plumbing, similar applications for the conveyance of fluids, and commonly used with solder, flared, or compression-type fittings. The type of copper water tube suitable for any particular application is determined by the internal or external fluid pressure, by the installation and service conditions, and by local requirements. Means of joining or bending are also factors which affect the selection of the type of tube to be used.²

NOTE 1—Annealed tube is suitable for use with flared or compression fittings, and with solder-type fittings, provided rounding and sizing of the tube ends is performed where needed.

NOTE 2—Drawn temper tube is suitable for use with solder-type fittings. Types K and L tube, in the drawn temper, are suitable for use with certain types and sizes of compression fittings.

NOTE 3—Fittings used for soldered or brazed connections in plumbing systems are described in ASME B16.18 and ASME B16.22.

1.2 The tube shall be produced from the following coppers, and the manufacturer has the option to supply any one of them, unless otherwise specified.

Copper UNS No.	Previously Used Designation	Description
C12000	DLP	Phosphorus deoxidized, low residual phosphorus
C12200	DHP	Phosphorus deoxidized, high residual phosphorus

1.3 The assembly of copper plumbing or fire sprinkler systems by soldering is described in Practice B828.

1.4 Solders for joining copper potable water or fire sprinkler systems are covered by Specification B32. The requirements for acceptable fluxes for these systems are covered by Specification B813.

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 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 is permitted to be used to accommodate composition variations of the base alloy.

1.5 *Units*—This specification is the companion specification to SI Specification B88M; therefore, no SI equivalents are shown in this specification.

1.6 The following safety hazards caveat pertains only to the test methods portion, Section 16, 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 The following documents of the issue in effect on date of material purchase form a part of this specification to the extent referenced herein:

2.2 ASTM Standards:³

B32 Specification for Solder Metal

B88M Specification for Seamless Copper Water Tube (Metric)

B153 Test Method for Expansion (Pin Test) of Copper and Copper-Alloy Pipe and Tubing

B577 Test Methods for Detection of Cuprous Oxide (Hydrogen Embrittlement Susceptibility) in Copper

B813 Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube

B828 Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings

B846 Terminology for Copper and Copper Alloys

B900 Practice for Packaging of Copper and Copper Alloy Mill Products for U.S. Government Agencies

B968/B968M Test Method for Flattening of Copper and Copper-Alloy Pipe and Tube

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

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.

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