



Standard Specification for Copper Alloy Sand Castings for General Applications¹

This standard is issued under the fixed designation B 584; 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 covers requirements for copper alloy sand castings for general applications. Nominal compositions of the alloys defined by this specification are shown in Table 1.² This is a composite specification replacing former documents as shown in Table 1.

NOTE 1—Other copper alloy castings are included in the following ASTM specifications: B 22, B 61, B 62, B 66, B 67, B 148, B 176, B 271, B 369, B 427, B 492, B 505, B 763, B 770, and B 806.

1.2 Component part castings produced to this specification may be manufactured in advance and supplied from stock. In such cases the manufacturer shall maintain a general quality certification of all castings without specific record or date of casting for a specific casting.

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are provided for information purposes only.

2. Referenced Documents

2.1 ASTM Standards:

- B 22 Specification for Bronze Castings for Bridges and Turntables³
- B 61 Specification for Steam or Valve Bronze Castings³
- B 62 Specification for Composition Bronze or Ounce Metal Castings³
- B 66 Specification for Bronze Castings for Steam Locomotive Wearing Parts³
- B 67 Specification for Car and Tender Journal Bearings, Lined³
- B 148 Specification for Aluminum-Bronze Sand Castings³
- B 176 Specification for Copper-Alloy Die Castings³
- B 208 Practice for Preparing Tension Test Specimens for Copper Alloy Sand, Permanent Mold, Centrifugal, and

Continuous Castings³

- B 271 Specification for Copper-Base Alloy Centrifugal Castings³
- B 369 Specification for Copper-Nickel Alloy Castings³
- B 427 Specification for Gear Bronze Alloy Castings³
- B 492 Specification for Cast Copper-Nickel Ship Tailshaft Sleeves⁴
- B 505 Specification for Copper-Base Alloy Continuous Castings³
- B 763 Specification for Copper Alloy Sand Castings for Valve Application³
- B 770 Specification for Copper-Beryllium Alloy Sand Castings for General Applications³
- B 806 Specification for Copper Alloy Permanent Mold Castings for General Applications³
- B 824 Specification for General Requirements for Copper Alloy Castings³
- B 846 Terminology for Copper and Copper Alloys³
- E 527 Practice for Numbering Metals and Alloys (UNS)⁵
- 2.2 ASME Code:
 - ASME Boiler and Pressure Vessel Code⁶

3. Terminology

3.1 Definitions of terms relating to copper alloys can be found in Terminology B 846.

4. General Requirements

4.1 The following sections of Specification B 824 form a part of this specification. In the event of a conflict between this specification and Specification B 824, the requirements of this specification shall take precedence.

- 4.1.1 Terminology,
- 4.1.2 Other Requirements,
- 4.1.3 Dimensions, Mass, and Permissible Variations,
- 4.1.4 Workmanship, Finish, and Appearance,
- 4.1.5 Sampling,
- 4.1.6 Number of Tests and Retests,
- 4.1.7 Specimen Preparation,

¹ This practice 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 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 Discontinued—*Annual Book of ASTM Standards*, Vol 02.01.

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

⁶ Available from the American Society of Mechanical Engineers, United Engineering Center, 345 E. 47th St., New York, NY 10017.

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