



Standard Specification for Copper-Beryllium Alloy (UNS No. C17000 and C17200) Forgings and Extrusions¹

This standard is issued under the fixed designation B 570; 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.

1. Scope

1.1 This specification establishes the requirements for copper-beryllium alloy forgings and extrusions produced from the following alloys.

Copper Alloy UNS No.	Nominal % Composition Beryllium
C17000	1.7
C17200	1.9

NOTE 1—Requirements for copper-beryllium alloy rod and bar appear in Specification B 196 (Section 2).

1.2 Unless otherwise specified, Copper Alloy UNS No. C17200 shall be the alloy furnished whenever Specification B 570 is specified without any alloy designation.

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

2. Referenced Documents

2.1 ASTM Standards:

B 194 Specification for Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar²

B 196 Specification for Copper-Beryllium Alloy Rod and Bar²

B 249 Specification for General Requirements for Wrought Copper and Copper-Alloy Rod, Bar, Shapes, and Forgings²

B 601 Practice for Temper Designations for Copper and Copper Alloys—Wrought and Cast²

B 846 Terminology for Copper and Copper Alloys²

E 3 Methods of Preparation of Metallographic Specimens³

E 8 Test Methods for Tension Testing of Metallic Materials³

E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials³

E 112 Test Methods for Determining Average Grain Size³

3. Terminology

3.1 Definitions:

3.1.1 See Terminology B 846 for additional definitions.

3.1.2 *extrusion*—a uniform metal shape, long in relation to its cross-sectional dimensions, produced by forcing a suitably preheated billet or preform through an orifice (die) of the desired cross section. Extrusions generally are furnished in straight lengths.

3.1.3 *forging*—a metal part worked to a predetermined shape by one or more such processes as hammering, upsetting, pressing, rolling, and so forth.

4. Ordering Information

4.1 Orders for product under this specification shall include the following information:

4.1.1 ASTM designation and year of issue (for example, B570 – 96).

4.1.2 Quantity: number of pieces or pounds,

4.1.3 Copper Alloy UNS No. (Section 1),

4.1.4 Temper (Section 7) or condition (Section 11),

4.1.5 Drawing showing the shape, dimensions, and tolerances, if required,

4.1.6 If an extrusion: the length (or mass) required, straightness as required,

4.2 The following are options and should be included in the contract or purchase order, when required:

4.2.1 Tension tests (Section 10),

4.2.2 Special tests such as grain size,

4.2.3 Finish (see Section 14),

4.2.4 Grain size (see Section 8), and

4.2.5 When material is ordered for agencies of the U.S. Government.

5. Material and Manufacture

5.1 Material:

5.1.1 The material of manufacture shall be cast or wrought billet of C17000 or C17200 of such purity and soundness as to be suitable for processing into the products prescribed herein.

5.1.2 The product heat number shall appear on the Certification or Test Report.

5.2 Manufacture:

5.2.1 The product shall be manufactured by hot working and heat treating as may be necessary to meet the properties specified herein.

6. Chemical Composition

6.1 The product composition shall conform to the chemical

¹ This specification is under the jurisdiction of ASTM Committee B-5 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.02 on Rod, Bar, Wire, Shapes, and Forgings.

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² Annual Book of ASTM Standards, Vol 02.01.

³ Annual Book of ASTM Standards, Vol 03.01.