



Designation: B 145 – 70

Endorsed by
American Foundrymen's Society
and
Manufacturers Standardization Society
of the Valve and Fittings Industry

Standard Specification for LEADED RED BRASS AND LEADED SEMI-RED BRASS SAND CASTINGS¹

This Standard is issued under the fixed designation B 145; 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 reappraisal.

1. Scope

1.1 This specification covers castings of four alloys having the ASTM classifications,² alloy numbers³ and commercial designations and nominal compositions shown in Table 1.

NOTE 1—This specification covers the technical requirements for copper-base alloy castings and is not intended for use for the corresponding alloys in ingot form which are specified in ASTM Specification B 30, for Copper-Base Alloys in Ingot Form for Sand Castings.⁴

NOTE 2—For castings for valves and fittings, reference should be made to ASTM Specification B 62, for Composition Bronze or Ounce Metal Castings.⁴

NOTE 3—The values stated in U.S. customary units are to be regarded as the standard. The metric equivalents of U.S. customary units may be approximate.

2. Ordering Information

2.1 Orders for material under this specification shall include the following information:

2.1.1 Alloy number (Section 1),

2.1.2 Tests or certification required (Sections 5, 8, 10, 16), and

2.1.3 Marking, if required (Section 14).

3. Manufacture

3.1 The alloy may be made by any approved method. If alloys in ingot form are used, the alloy ingot selected shall have the same ASTM classification and alloy number as prescribed in this specification and shall conform to the requirements for that alloy as prescribed in Specification B 30.

3.2 The castings shall be made in accordance with such practice as to obtain the physical properties prescribed in this specification.

3.3 The castings shall be of uniform quality.

4. Chemical Requirements

4.1 The castings shall conform to the requirements as to chemical composition prescribed in Table 2.

5. Chemical Analysis

5.1 An analysis of each melt may be required at the option of the purchaser. If the castings are made from ingot metal in accordance with Specification B 30 or returns (backstock) of known composition, and if the foundry practice of the manufacturer is satisfactory to the inspector, and if melting and casting are witnessed by the inspector, he may waive further chemical analysis.

5.2 The sample for chemical analysis shall be taken by drilling or cutting the test coupon or sprue in such a manner as to be representative of the entire cross section.

6. Methods of Chemical Analysis

6.1 Analyses, when made, shall be performed in accordance with ASTM Methods E 54, Chemical Analysis of Special Brasses and Bronzes.⁵

7. Tensile Properties

7.1 The material shall conform to the requirements as to tensile properties prescribed in Table 3.

¹ This specification is under the jurisdiction of ASTM Committee B-5 on Copper and Copper Alloys. A list of members may be found in the ASTM Yearbook.

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² Classification B 119, Cast Copper-Base Alloys, which appears in the *Annual Book of ASTM Standards*, Part 5.

³ The alloy numbers are arbitrarily chosen and have no other significance.

⁴ *Annual Book of ASTM Standards*, Part 5.

⁵ *Annual Book of ASTM Standards*, Part 32.