



Standard Specification for Copper-Aluminum-Silicon-Cobalt Alloy, Copper-Nickel- Silicon-Magnesium Alloy, Copper-Nickel-Silicon Alloy, Copper-Nickel-Aluminum-Magnesium Alloy, and Copper- Nickel-Tin Alloy Sheet and Strip¹

This standard is issued under the fixed designation B 422; 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. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope *

1.1 This specification establishes the requirements for² Copper Alloy UNS Nos. C19025, C63800, C70250, and C70260 (Note 1) Sheet and Strip.

NOTE 1—This document contains some patented alloys. Alternatives such as beryllium coppers and spinodal alloys are available for similar applications.

1.2 The values stated in inch-pound units are to be regarded as the standard.

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*:

B 248 Specification for General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip, and Rolled Bar³

E 527 Practice for Numbering Metals and Alloys (UNS)⁴

3. Ordering Information

3.1 Orders for material under this specification should include the following information:

3.1.1 Quantity (of each size),

3.1.2 Alloy: Copper Alloy UNS No. (Section 1),

3.1.3 Form of material (sheet or strip),

3.1.4 Temper (see 6.1),

3.1.5 Dimensions (thickness, width, length (if applicable),

3.1.6 How furnished (rolls, specific lengths with or without ends, stock lengths with or without ends),

3.1.7 Type of edge, if required (slit, sheared, sawed, square corners, rounded corners, rounded edges, or full-rounded edges (see 9.6),

3.1.8 Type of width and straightness tolerances, if required (slit-metal tolerances, square sheared-metal tolerances, sawed-metal tolerances, straightened or edge-rolled-metal tolerances) (Section 9), and

3.1.9 ASTM specification number and year of issue.

3.2 In addition, when material is purchased for agencies of the U.S. Government, it shall conform to the Supplementary Requirements as defined in Specification B 248 when specified in the contract or purchase order.

4. General Requirements

4.1 Material furnished to this specification shall conform to the applicable requirements of the current edition of Specification B 248.

5. Chemical Composition

5.1 The materials shall conform to the compositions prescribed in Table 1.

5.2 These specification limits do not preclude the presence of other elements. Limits for unnamed elements may be established by agreement between manufacturer or supplier and purchaser.

5.3 Copper may be taken as the difference between the sum of all the elements analyzed and 100 %. When all the elements in Table 1 for Alloys C63800, C70250, and C70260 are analyzed, their sum shall be 99.5 % min. When all the elements in Table 1 for Alloy C19025 are analyzed, their sum shall be 99.7 % min.

6. Temper

6.1 Tempers available under this specification are as designated in Tables 2, 3, 4, and 5.

7. Mechanical Properties

7.1 Copper Alloy UNS No. C63800 is a dispersion-strengthened alloy which does not require heat treatment. The annealed and rolled tempers shall conform to the tensile

¹ This specification is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.01 on Plate, Sheet, and Strip.

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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 *Annual Book of ASTM Standards*, Vol 01.01.

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