



Standard Specification for Copper-Zirconium Alloy Sheet and Strip¹

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1. Scope *

1.1 This specification establishes the requirements for sheet and strip of Copper Alloy UNS C15100.

1.2 Values stated in inch-pound units are the standard. SI values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

B 193 Test Method for Resistivity of Electrical Conductor Materials²

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

B 601 Practice for Temper Designations for Copper and Copper Alloys—Wrought and Cast³

E 8 Test Methods for Tension Testing of Metallic Materials⁴

E 53 Test Methods for Chemical Analysis of Copper⁵

E 62 Test Methods for Chemical Analysis of Copper and Copper Alloys (Photometric Methods)⁵

E 112 Test Methods for Determining Average Grain Size⁴

E 478 Test Methods for Chemical Analysis of Copper Alloys⁵

E 527 Practice for Numbering Metals and Alloys (UNS)⁶

3. Ordering Information

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

3.1.1 ASTM designation number and year of issue,

3.1.2 Quantity (of each size),

3.1.3 Copper Alloy UNS No. (see 1.1),

3.1.4 Form of material (sheet or strip),

3.1.5 Temper (see 6.1),

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

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

3.1.8 Type of edge, if required (slit, sheared, sawed, square

corners, rounded corners, rounded edges, or full-rounded edges, see 10.1.6),

3.1.9 Type of width and straightness tolerances, if required (slit metal tolerances, square sheared metal tolerances, sawed metal tolerances, straightened or edge-rolled metal tolerances, see Section 10), and

3.2 When product is purchased for agencies of the U.S. Government.

4. Material and Manufacture

4.1 Material:

4.1.1 The material of manufacture shall be a cast bar, slab, cake, billet, etc. of Copper Alloy UNS No. C15100 of such purity and soundness as to be suitable for processing in to the products prescribed herein.

4.1.2 In the event heat identification or traceability is required, the purchaser shall specify the details desired.

NOTE 1—Due to the discontinuous nature of the processing of castings into wrought products, it is not always practical to identify a specific casting analysis with a specific quantity of finished material.

4.2 Manufacture:

4.2.1 The product shall be manufactured by such hotworking, cold-working, and annealing processes as to produce a uniform wrought structure in the finished product.

4.2.2 The product shall be hot- or cold-worked to the finished size and subsequently annealed, when required, to meet the temper properties specified.

4.3 Edges:

4.3.1 Slit edges shall be furnished unless otherwise specified in the contract or purchase order.

5. Chemical Composition

5.1 The product shall conform to the chemical composition prescribed in Table 1.

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

5.2 Copper, given as the remainder, is the difference between the sum of results for all elements analyzed and 100 %.

5.3 When all elements listed in Table 1 are analyzed, the sum of results shall be 99.94 % minimum.

6. Temper

6.1 The tempers, as defined in Practice B 601, available

¹ This specification is under the jurisdiction of ASTM Committee B-5 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.01 on Plate, Sheet, and Strip.

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² Annual Book of ASTM Standards, Vol 02.03.

³ Annual Book of ASTM Standards, Vol 02.01.

⁴ Annual Book of ASTM Standards, Vol 03.01.

⁵ Annual Book of ASTM Standards, Vol 03.05.

⁶ Annual Book of ASTM Standards, Vol 01.01.