



Designation: B 694 – 95

AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for Copper, Copper-Alloy, and Copper-Clad Stainless Steel (CCS), and Copper-Clad Alloy Steel (CAS) Sheet and Strip for Electrical Cable Shielding¹

This standard is issued under the fixed designation B 694; 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 describes selected copper, copper alloy, copper-clad stainless steel (CCS), and copper-clad alloy steel (CAS) materials, sheet and strip, in various thicknesses, for use as electrostatic or electromagnetic shielding for insulated power, control, instrumentation, and communication cables.

NOTE 1—See Specification B 736, for related standards for aluminum-based shielding materials.

1.2 The materials covered are the following:

Copper or Copper Alloy UNS No. ⁴	Type of Material
C11000	copper
C19400	copper-iron alloy
C22000	copper-zinc alloy (commercial bronze)
C66400	copper-zinc-iron-cobalt alloy
C66410	copper-zinc-iron alloy
C71000	cupro-nickel 20 %
...	copper-clad stainless steel (CCS)
...	copper-clad alloy steel (CAS)

⁴ Refer to Practice E 527 for an explanation of the Unified Numbering System (UNS).

1.3 The values stated in inch-pound units are the standard, except for temperature and grain size which are given in SI units. Values in parentheses are for information only.

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 specified herein:

2.2 ASTM Standards:

A 176 Specification for Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip²

A 505 Specification for Steel, Sheet and Strip, Alloy, Hot-Rolled and Cold-Rolled, General Requirements for²

B 152 Specification for Copper Sheet, Strip, Plate, and Rolled Bar³

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 01.03.

³ Annual Book of ASTM Standards, Vol 02.01.

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

B 736 Specification for Aluminum, Aluminum Alloy and Aluminum-Clad Steel Cable Shielding Stock⁴

E 3 Methods of Preparation of Metallographic Specimens⁵

E 8 Test Methods for Tension Testing of Metallic Specimens⁵

E 54 Test Methods for Chemical Analysis of Special Brasses and Bronze⁶

E 62 Test Methods for Chemical Analysis of Copper and Copper Alloys (Photometric Methods)⁶

E 75 Test Methods for Chemical Analysis of Copper-Nickel and Copper-Nickel-Zinc Alloys⁶

E 112 Test Methods for Determining Average Grain Size⁵

E 255 Practice for Sampling Copper and Copper Alloys for the Determination of Chemical Composition⁶

E 478 Test Methods for Chemical Analysis of Copper Alloys⁶

E 527 Practice for Numbering Metals and Alloys (UNS)⁷

2.3 International Standards Organization (ISO) Standards:
ISO/DIS 3110/2 Determination of Aluminum; Flame Atomic Absorption Spectrometric Method (TC/26 Ref. No. N698 E/F)⁸

3. Terminology

3.1 Definitions:

3.1.1 *cladding ratio, n*—ratio by percent thickness of the component layers, for example, 16/68/16.

4. Ordering Information

4.1 Orders for material should include the following information:

4.1.1 ASTM designation and year of issue,

4.1.2 Quantity: total for each item, pounds (or kilograms),

⁴ Annual Book of ASTM Standards, Vol 02.02.

⁵ Annual Book of ASTM Standards, Vol 03.01.

⁶ Annual Book of ASTM Standards, Vol 03.05.

⁷ Annual Book of ASTM Standards, Vol 01.01.

⁸ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.