



Designation: B8 – 11 (Reapproved 2017)

Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft¹

This standard is issued under the fixed designation B8; 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.

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

1. Scope

1.1 This specification covers bare concentric-lay-stranded conductors made from round copper wires, either uncoated or coated with tin, lead, or lead alloy for general use for electrical purposes. These conductors shall be constructed with a central core surrounded by one or more layers of helically laid wires.

NOTE 1—This specification also permits conductors for use as covered or insulated electrical conductors.

NOTE 2—Sealed conductors, that are intended to prevent longitudinal water propagation and are further covered/insulated, are also permitted within the guidelines of this specification.

1.2 For the purposes of this specification, conductors are classified as follows (Explanatory [Note 1](#) and [Note 2](#)):

1.2.1 *Class AA*—For bare conductors usually used in overhead lines.

1.2.2 *Class A*—For conductors to be covered with weather-resistant (weather-proof), slow-burning materials, and for bare conductors where greater flexibility than is afforded by Class AA is required.

1.2.3 *Class B*—For conductors to be insulated with various materials such as rubber, paper, varnished cloth, and so forth, and for the conductors indicated under Class A where greater flexibility is required.

1.2.4 *Class C and Class D*—For conductors where greater flexibility is required than is provided by Class B conductors.

1.3 The SI values for density are regarded as the standard. For all other properties, the inch-pound values are to be regarded as standard and the SI units may be approximate.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

¹ This specification is under the jurisdiction of ASTM Committee B01 on Electrical Conductors and is the direct responsibility of Subcommittee B01.04 on Conductors of Copper and Copper Alloys.

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2. Referenced Documents

2.1 *ASTM Standards*:²

B1 Specification for Hard-Drawn Copper Wire

B2 Specification for Medium-Hard-Drawn Copper Wire

B3 Specification for Soft or Annealed Copper Wire

B33 Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes

B172 Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members, for Electrical Conductors

B173 Specification for Rope-Lay-Stranded Copper Conductors Having Concentric-Stranded Members, for Electrical Conductors

B174 Specification for Bunch-Stranded Copper Conductors for Electrical Conductors

B189 Specification for Lead-Coated and Lead-Alloy-Coated Soft Copper Wire for Electrical Purposes

B193 Test Method for Resistivity of Electrical Conductor Materials

B246 Specification for Tinned Hard-Drawn and Medium-Hard-Drawn Copper Wire for Electrical Purposes

B263 Test Method for Determination of Cross-Sectional Area of Stranded Conductors

B354 Terminology Relating to Uninsulated Metallic Electrical Conductors

B787/B787M Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation

3. Ordering Information

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

3.1.1 Quantity of each size and class,

3.1.2 Conductor size: circular-mil area or AWG (Section 6),

3.1.3 Class (see 1.2 and Table 1),

3.1.4 Temper (see 13.2),

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.