



Designation: B 174 – 9502

Standard Specification for Bunch-Stranded Copper Conductors for Electrical Conductors¹

This standard is issued under the fixed designation B 174; 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 Department of Defense.

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

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1. Scope

1.1 This specification covers bare bunch-stranded conductors made from round copper wires, either uncoated or coated with tin, lead, or lead-alloy for use as electrical conductors (Explanatory Note 1 and Explanatory Note 2).

1.2 Coated wires shall include only those wires with finished diameters and densities substantially equal to the respective diameters and densities of uncoated wires.

1.3 The SI values for density and resistivity stated in inch-pound or SI units are to be regarded separately as the standard. For all other properties Each system shall be used independently of the inch-pound or other. Combining values are to be regarded as form the standard and two systems may result in nonconformance with the specification. For conductor sizes designated by AWG or kcmil, the requirements in SI units have been numerically converted from corresponding values, stated or derived, in inch-pound units. For conductor sizes designated by SI units only, the requirements are stated or derived in SI units.

2. Referenced Documents

2.1 The following documents of the issue in effect at the time of reference form a part of this specification to the extent referenced herein:

2.2 ASTM Standards:

B 3 Specification for Soft or Annealed Copper Wire²

B 33 Specification for Tinned Soft or Annealed Copper Wire for Electrical Purposes²

B 172 Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members, for Electrical Conductors²

B 189 Specification for Lead-Coated and Lead-Alloy-Coated Soft Copper Wire for Electrical Purposes²

B 263 Test Method for Determination of Cross-Sectional Area of Stranded Conductors²

B 354 Terminology Relating to Uninsulated Metallic Electrical Conductors²

2.3 American National Standard:

ANSI C42.35 Definitions of Electrical Terms³

3. Classification

3.1 For the purpose of this specification bunch-stranded conductors are classified as shown in Table 1.

4. Ordering Information

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

4.1.1 Quantity of each size and class,

4.1.2 Conductor size: circular-mil area or AWG (see 7.1),

4.1.3 Class (Section 3 and Table 2),

4.1.4 Whether coated or uncoated; if coated, designate type of coating (see 11.1),

4.1.5 Maximum length of lay (see 6.3 and Table 3), 6.3),

4.1.6 Whether separator is required (see 7.2),

² Annual Book of ASTM Standards, Vol 02.03.

³ Available from American National Standards Institute, 11 25 West 42nd St., 13th Floor, 43rd Street, New York, NY 10036.