



Standard Specification for Bunch-Stranded Copper Conductors for Electrical Conductors¹

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

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

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),

4.1.6 Whether separator is required (see 7.2),

4.1.7 Package size (see section 15.1),

4.1.8 Special package marking, if required (Section 14), and

4.1.9 Place of inspection (Section 13).

4.1.10 In addition, Supplementary Requirements shall apply only when specified by the purchaser in the inquiry, contract, or purchase order for direct procurement by agencies of the U.S. Government (see S1, S2, and S3).

5. Joints

5.1 Necessary joints in wires shall be made in accordance with accepted commercial practice.

5.2 Joints shall be so constructed and so disposed throughout the conductor that the diameter or configuration of the completed conductor is not substantially affected, and so that the flexibility of the completed conductor is not adversely affected.

6. Lay

6.1 Conductors of the same size and description furnished on one order shall have the same lay.

6.2 The direction of lay shall be at the option of the manufacturer unless otherwise specified.

6.3 Unless otherwise specified by the purchaser, the length of lay of bare or coated bunch-stranded conductors shall conform to the requirements of Column B of Table 2.

6.4 When specified, for constructions other than those listed in Footnote A of Table 2, the length of lay shall conform to the requirements of Column A of Table 2.

6.5 Conductors of an intermediate nominal area in circular mils shall conform to the requirements for length of lay of the next smaller conductor.

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

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² *Annual Book of ASTM Standards*, Vol 02.03.

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