



Designation: B 787/B 787M – 00

Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation¹

This standard is issued under the fixed designation B 787/B 787M; 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 covers bare combination unilay-stranded conductors made from round copper wires, either uncoated or coated with tin or lead alloy for insulated conductors for electrical purposes. These conductors shall be constructed with a central core wire surrounded by two layers of helically laid wires, resulting in an outer diameter equal to the compressed-stranded equivalent conductor. (See Explanatory Note 1 and Note 2).

NOTE 1—For the purpose of this specification, combination unilay conductor is defined as follows: a central core wire surrounded by a layer of six helically laid wires of the same diameter as the core wire with a helically laid outer layer containing six smaller wires alternated between six wires of the same diameter as the wires in the layer underneath. Both layers have a common length and direction of lay (see Fig. 1).

1.2 For the purpose of this specification, normal conductor classification (Class AA, A, B, C) is not applicable as these conductors are intended for subsequent insulation. The descriptive term combination unilay-stranded shall be used in place of conductor classification.

1.3 The values stated in inch-pound or SI units are to be regarded separately as standard. Each system shall be used independently of the other. Combining values from the 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.

1.3.1 For density, resistivity, and temperature, the values stated in SI units are to be regarded as standard.

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 referenced herein.

2.2 ASTM Standards:

B 1 Specification for Hard-Drawn Copper Wire²

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 Annual Book of ASTM Standards, Vols 02.03.

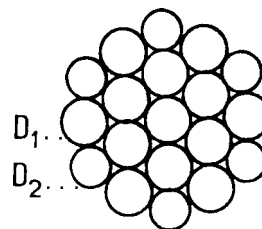


FIG. 1 Cross Section of Conductor

B 2 Specification for Medium-Hard-Drawn Copper Wire²

B 3 Specification for Soft or Annealed Copper Wire²

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

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

B 246 Specification for Tinned Hard-Drawn and Medium-Hard-Drawn 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 Other Standard:

NBS Handbook 100—Copper Wire Tables of the National Bureau of Standards³

3. Ordering Information

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

3.1.1 Quantity of each size,

3.1.2 Conductor Size: Circular-mil area or American Wire Gage, AWG (Section 7 and Table 1),

3.1.3 Stranding (see Explanatory Note 3),

3.1.4 Temper (see 4.2),

3.1.5 Whether coated or uncoated; if coated, designate type of coating (see 4.1 and 4.2),

3.1.6 Details of special-purpose lays, if required (see 6.2),

3.1.7 When physical tests shall be made (see 9.2 and 9.3),

3.1.8 Package size (see 15.1),

3.1.9 Lagging, if required (see 15.2),

3.1.10 Special package marking, if required (Section 15), and

³ Available from National Institute of Standards and Technology, (NIST), Gaithersburg, MD 20899.