



Standard Specification for Aluminum 1350–H19 Wire for Electrical Purposes¹

This standard is issued under the fixed designation B 230/B 230M; 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. Scope

1.1 This specification covers aluminum 1350–H19 (extra hard) round wire for electrical purposes.

1.2 The values stated in inch-pound or SI units are to be regarded separately as standard. The values in each system are not exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

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

NOTE 1—Prior to 1975 aluminum 1350 was designated EC aluminum.

NOTE 2—The aluminum and temper designations conform to ANSI H35.1/H35.1M. Aluminum 1350 corresponds to UNS A91350 in accordance with Practice E 527.

NOTE 3—For definitions of terms found in this specification relating to uninsulated electrical conductors see Terminology B 354.

2. Referenced Documents

2.1 The following documents of the issue in effect on the date of material purchase form a part of this specification to the extent referenced herein.

2.2 ASTM Standards:²

B 193 Test Method for Resistivity of Electrical Conductor Materials

B 233 Specification for Aluminum 1350 Drawing Stock for Electrical Purposes

B 354 Terminology Relating to Uninsulated Metallic Electrical Conductors

B 557/B 557M Test Methods of Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products

E 527 Practice for Numbering Metals and Alloys (UNS)

2.3 ANSI Standard:

ANSI H35.1 American National Standard for Alloy and Temper Designations Systems for Aluminum³

ANSI H35.1M American National Standard for Alloy and Temper Systems for Aluminum [Metric]³

2.4 NIST Document:

NBS Handbook 100—Copper Wire Tables⁴

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *lot*—a group of production units, up to 30 000 lb [15 000 kg] of mass, of one type and size of wire, which was produced during the same time period, under similar production conditions, and is presented for acceptance at the same time (Explanatory Note 1 and Note 2).

3.1.2 *production unit*—a coil, reel, spool, or other package of wire that represents a single usable length.

3.1.3 *sample*—the production unit or units from which a test specimen or specimens has been removed, and which is considered to have properties representative of the lot.

3.1.4 *specimen*—a length of wire removed for test purposes.

4. Ordering Information

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

4.1.1 Quantity of each size,

4.1.2 Wire size (see 11.1 and Table 1 or Table 2),

4.1.3 Special tension test, if required (see 7.2 and 7.3),

4.1.4 Frequency of bending test (see 8.1 and 14.5),

4.1.5 Special jointing procedures, if permitted (see 12.2),

4.1.6 Place of inspection (see 15.2),

4.1.7 Package size and type (see 16.1), and

4.1.8 Special package marking, if required (see 16.4).

5. Materials and Manufacture

5.1 The aluminum wire shall be made from drawing stock meeting the requirements of Specification B 233.

¹ This specification is under the jurisdiction of ASTM Committee B01 on Electrical Conductors and is the direct responsibility of Subcommittee B01.07 on Conductors of Light Metals.

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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.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁴ Available from National Institute of Standards and Technology (NIST), 100 Bureau Dr., Stop 3460, Gaithersburg, MD 20899-3460.