



Standard Specification for Compact Round Concentric-Lay-Stranded Aluminum Conductors, Steel-Reinforced (ACSR/COMP)¹

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1. Scope

1.1 This specification covers compact round concentric-lay-stranded conductors made from aluminum 1350-H19 (extra hard) wires and round zinc-coated, aluminum-coated, or aluminum-clad steel core wires usually used in overhead lines. These conductors shall be constructed with one steel core wire surrounded by one or more layers of helically-laid compacted or otherwise shaped aluminum wires (Explanatory **Note 1** and **Note 2**).

1.2 Compact ACSR covered by this specification has five types of steel core wire which are designated by abbreviations as follows (Explanatory **Note 2** and **Note 7**).

1.2.1 *ACSR/GA2/COMP*—Compact ACSR using Class A zinc-coated steel wire,

1.2.2 *ACSR/GC2/COMP*—Compact ACSR using Class C zinc-coated steel wire,

1.2.3 *ACSR/AW2/COMP*—Compact ACSR using aluminum-clad steel wire, AW2 (Normal Strength).

1.2.4 *ACSR/AW3/COMP*—Compact ACSR using aluminum-clad steel wire, AW3 (High Strength).

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

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

NOTE 2—The aluminum and temper designations conform to ANSI H35.1. Aluminum 1350 corresponds to Unified Numbering System A91350 in accordance with Practice **E527**.

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.

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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2.2 ASTM Standards:²

B193 Test Method for Resistivity of Electrical Conductor Materials

B230/B230M Specification for Aluminum 1350–H19 Wire for Electrical Purposes

B232/B232M Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Reinforced (ACSR)

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

B341/B341M Specification for Aluminum-Coated (Aluminized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR/AZ) (Withdrawn 2007)³

B354 Terminology Relating to Uninsulated Metallic Electrical Conductors

B498/B498M Specification for Zinc-Coated (Galvanized) Steel Core Wire for Use in Overhead Electrical Conductors

B502 Specification for Aluminum-Clad Steel Core Wire for Use in Overhead Electrical Aluminum Conductors

B802M Specification for Zinc-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR)[Metric](Discontinued 1998-Replaced by B 802/B802M) (Withdrawn 1998)³

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E527 Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

2.3 Other Documents:

ANSI H35.1 American National Standard Alloy and Temper Designation Systems For Aluminum⁴

NBS Handbook 100—Copper Wire Tables of the National Bureau of Standards⁵

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 The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁵ Available from National Technical Information Service (NTIS), 5301 Shawnee Rd., Alexandria, VA 22312, <http://www.ntis.gov>.