



Designation: B1001 – 17

Standard Specification for Copper Electrode Wire Used for Welding Seams of Steel Cans¹

This standard is issued under the fixed designation B1001; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification establishes the requirements for drawn, soft annealed round copper electrode wire used in welding machines for the purpose of seam welding of cans.

1.2 *Units*—The values stated in SI units are to be regarded as standard. The values given in parentheses are mathematical conversions to inch-pound units that are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards*:²

- B49 Specification for Copper Rod for Electrical Purposes
- B193 Test Method for Resistivity of Electrical Conductor Materials
- B224 Classification of Coppers
- B250/B250M Specification for General Requirements for Wrought Copper Alloy Wire
- B258 Specification for Nominal Diameters and Cross-Sectional Areas of AWG Sizes of Solid Round Wires Used as Electrical Conductors
- E8/E8M Test Methods for Tension Testing of Metallic Materials
- E53 Test Method for Determination of Copper in Unalloyed Copper by Gravimetry
- E2575 Test Method for Determination of Oxygen in Copper and Copper Alloys (Withdrawn 2017)³

¹ This specification is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.02 on Rod, Bar, Wire, Shapes and Forgings.

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

F16 Test Methods for Measuring Diameter or Thickness of Wire and Ribbon for Electronic Devices and Lamps

2.2 *NIST Document*:⁴

NBS Handbook 100 Copper Wire Tables

3. General Requirements

3.1 The following sections of Specification B250/B250M, as applicable, constitute a part of this specification:

- 3.1.1 Terminology,
- 3.1.2 Materials and Manufacture,
- 3.1.3 Workmanship, Finish, and Appearance,
- 3.1.4 Sampling,
- 3.1.5 Number of Tests and Retests,
- 3.1.6 Test Methods,
- 3.1.7 Significance of Numerical Limits,
- 3.1.8 Inspection,
- 3.1.9 Rejection and Rehearing,
- 3.1.10 Certification,
- 3.1.11 Test Report, and
- 3.1.12 Packaging and Package Marking.

4. Ordering Information

4.1 Include the following specified choices when placing orders for product under this specification, as applicable:

- 4.1.1 ASTM designation and year of issue,
- 4.1.2 Copper [Alloy] UNS No. designation (see Classification B224),
- 4.1.3 Temper (Temper Section 7),
- 4.1.4 Form (wire) and size (diameter) (Dimensions and Permissible Variations Section 11),
- 4.1.5 How furnished: straight length or coils,
- 4.1.6 Quantity; weight for each size and form,
- 4.1.7 Intended application, and
- 4.1.8 Package type (stem, reel, bulk or drum).
- 4.1.9 The following options are available but may not be included unless specified at the time of placing the order, when required:
 - 4.1.9.1 Heat identification or traceability details,
 - 4.1.9.2 Electromagnetic (eddy current) examination,

⁴ Available from National Institute of Standards and Technology (NIST), 100 Bureau Dr., Stop 1070, Gaithersburg, MD 20899-1070, <http://www.nist.gov>.