This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: B628 – 98 (Reapproved 2021)

Standard Specification for Silver-Copper Eutectic Electrical Contact Alloy[1]

This standard is issued under the fixed designation B628; 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 U.S. Department of Defense.

1. Scope

1.1 This specification covers 72 % silver-28 % copper (eutectic) alloy rod, wire, strip, and sheet material for electrical contacts.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI 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 become familiar with all hazards including those identified in the appropriate Safety Data Sheet (SDS) for this product/material as provided by the manufacturer, to establish appropriate safety, health, and environmental practices, and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

B277 Test Method for Hardness of Electrical Contact Materials

B476 Specification for General Requirements for Wrought Precious Metal Electrical Contact Materials

3. General Requirements

3.1 Specification B476 and Test Method B277 shall apply to all materials produced to this specification.

4. Manufacture

4.1 Raw materials shall be of such quality and purity that the finished product will have the properties and characteristics prescribed in this specification.

4.2 The material shall be finished by such operations (cold working, heat treating, annealing, turning, grinding, or pickling) as are required to produce the prescribed properties.

5. Chemical Composition

5.1 Material produced under the specification shall conform to the requirements as to chemical composition prescribed in Table 1.

6. Mechanical Requirements

6.1 The material shall conform to the mechanical properties prescribed in Table 2 or Table 3.

6.2 All test specimens shall be full thickness or diameter when practical.

6.3 All tests are to be conducted at room temperature, about 68°F (20°C).

7. Inspection and Testing

7.1 Material furnished under this specification shall be inspected by the manufacturer as detailed in the applicable provisions of Specification B476 and as listed below.

7.1.1 Visual inspection at 10 ×.

7.1.2 Temper test (hardness or tension, but not both). A tension test is recommended for strip below 0.030-in. (0.8-mm) thickness and for wire of any diameter. A tension test is preferred when permitted by part size and quantity.

7.1.3 Dimensional tests.

7.1.4 Spectrographic or chemical analysis when indicated by the purchase order.

8. Keywords

8.1 composition; electrical contacts; impurities; precious metals; silver copper alloy

[1] This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.05 on Precious Metals and Electrical Contact Materials.

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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.

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