1. Scope

1.1 This specification covers 75% gold-22% silver-3% nickel alloy tubing, rod, wire, strip, and sheet material for sliding 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 Material Safety Data Sheet (MSDS) for this product/material as provided by the manufacturer, to establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

B476 Specification for General Requirements for Wrought Precious Metal Electrical Contact Materials
E384 Test Method for Knoop and Vickers Hardness of Materials

3. Manufacture

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

3.2 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.

4. Chemical Composition

4.1 Material produced under the specification shall meet the requirements of chemical composition prescribed in Table 1.

5. Mechanical and Electrical Requirements

5.1 The contract or order may specify ultimate tensile strength and elongation, microhardness (Knoop or Vickers), or a combination of these mechanical properties as temper criterion. If the contract or order does not specify a temper criterion, then the criterion for temper designation will be ultimate tensile strength and elongation.

5.2 Mechanical properties shall conform to the listings of Table 2.

5.3 All test specimens shall be full size when practical.

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

6. General Requirements

6.1 Specification B476 shall apply to all materials produced to this specification.

6.2 Microhardness, when performed, shall be in accordance with Test Method E384.

7. Inspection and Testing

7.1 Material furnished under this specification shall be inspected by the manufacturer as listed below:

7.1.1 Visual inspection at 10x,
7.1.2 Temper test (hardness or tensile),
7.1.3 Dimensional tests, and
7.1.4 Spectrographic or chemical analysis when indicated by the purchase order.

7.2 The purchaser shall perform such tests as are required to verify the quality of material procured under this specification.

8. Keywords

8.1 contacts; electrical contact alloy; gold alloy

---


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.
X1. TYPICAL PROPERTY VALUES

X1.1 Table X1.1 contains a list of typical property values which are useful for engineering calculations in electrical contact design and application.