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400 Commonwealth Dr., Warrendale, PA 15096

AEROSPACE MATERIAL SPECIFICATION

An American National Standard

SAE AMS 7731B

Issued 11-1-70
Revised 10-1-86

Superseding AMS 7731A

GOLD WIRE AND RIBBON
99.97Au
Annealed

UNS P00020

1. SCOPE:

1.1 Form: This specification covers pure gold in the form of wire and ribbon.

1.2 Application: Primarily for electronic components requiring essentially nonmagnetic properties.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM E8 - Tension Testing of Metallic Materials

2.3 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

3. TECHNICAL REQUIREMENTS:

3.1 Composition: Shall be not less than 99.97% by weight gold, determined by spectrographic or other analytical methods approved by purchaser.

3.2 Condition: Cold drawn or cold rolled, annealed, and descaled, or bright annealed.

3.3 Properties: The product shall conform to the following requirements:

3.3.1 Tensile Strength: Shall be not greater than 22,000 psi (150 MPa), determined in accordance with ASTM E8.

3.4 Quality: The product, as received by purchaser, shall be uniform in quality, condition, temper, and cross-section. Product surfaces, evaluated at up to 30X magnification, shall be free from scale, corrosion, cracks, seams, scratches, slivers, dirt, grease, oil, streaks, stains, pit marks, burns, dents, blisters, laps, grooves, inclusions, and other imperfections detrimental to usage of the product.

3.5 Tolerances: The product shall be supplied in the following sizes and to the tolerances shown:

3.5.1 Round Wire (Cold Drawn): Shall be as shown in Table I.

TABLE I

Nominal Diameter Inch	Tolerance, Inch plus and minus
0.0005	0.0001
0.0007	0.0001
0.0010	0.00015
0.0015	0.00015
0.0020	0.00015
0.0030	0.0002
0.0040	0.0002
0.0060	0.0002
0.0080	0.0003
0.0120	0.0003
0.0160	0.0004
0.0200	0.0005
0.0250	0.0005
0.0320	0.0006
0.0400	0.0006

3.5.1 (Continued):

TABLE I (SI)

Nominal Diameter Millimetre	Tolerance, Millimetre plus and minus
0.012	0.002
0.018	0.002
0.025	0.0038
0.038	0.0038
0.050	0.0038
0.075	0.005
0.100	0.005
0.150	0.005
0.200	0.008
0.300	0.008
0.400	0.010
0.500	0.012
0.625	0.012
0.800	0.015
1.000	0.015

3.5.2 Ribbon (Cold Rolled):

3.5.2.1 Thickness: Shall be as shown in Table II.

TABLE II

Nominal Thickness (T) Inch	Tolerance, Inch plus and minus
0.002	0.050T
0.003	0.050T
0.004	0.050T
0.005	0.050T
0.006	0.050T
0.008	0.050T
0.010	0.050T
0.012	0.050T
0.016	0.050T
0.020	0.050T
0.025	0.0015
0.032	0.0015
0.040	0.0015
0.051	0.0015

3.5.2.1 (Continued):

TABLE II (SI)

Nominal Thickness (T) Millimetres	Tolerance, Millimetre plus and minus
0.05	0.050T
0.08	0.050T
0.10	0.050T
0.12	0.050T
0.15	0.050T
0.20	0.050T
0.25	0.050T
0.30	0.050T
0.40	0.050T
0.50	0.050T
0.62	0.038
0.80	0.038
1.00	0.038
1.28	0.038

3.5.2.2 Width: Shall be as shown in Table III.

TABLE III

Nominal Width Inch	Tolerance, Inch plus and minus
0.015	0.0025
0.031	0.0025
0.046	0.0025
0.062	0.0025
0.093	0.004
0.125	0.005
0.187	0.005
0.250	0.005
0.375	0.005
0.500	0.005
0.625	0.005
0.750	0.005
1.000	0.005

3.5.2.2 (Continued):

TABLE III (SI)

Nominal Width Millimetres	Tolerance, Millimetre plus and minus
0.38	0.062
0.78	0.062
1.15	0.062
1.55	0.062
2.32	0.10
3.12	0.12
4.75	0.12
6.25	0.12
9.38	0.12
12.50	0.12
15.50	0.12
18.75	0.12
25.00	0.12

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the product shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.4. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the product conforms to the requirements of this specification.

4.2 Classification of Tests: Tests to determine conformance to all technical requirements of this specification are classified as acceptance tests and shall be performed on each heat or lot as applicable.

4.3 Sampling: Shall be in accordance with the following; a lot shall be all product of the same nominal thickness, diameter, or cross-section from the same heat of gold:

4.3.1 Composition: One sample from each heat.

4.3.2 Tensile Strength, Quality, and Tolerances: Not less than one sample from each lot.

4.4 Reports:

4.4.1 The vendor of the product shall furnish with each shipment a report showing the results of tests for composition of each heat and for tensile strength of each lot and stating that the product conforms to the other technical requirements of this specification. This report shall include the purchase order number, heat number, AMS 7731B, size, and quantity.