

AEROSPACE MATERIAL SPECIFICATION

SAE AMS7731

REV. C

Issued 1970-11
Revised 2007-05
Reaffirmed 2012-09

Superseding AMS7731B

Gold Wire and Ribbon
99.97Au
Annealed

(Composition similar to UNS P00020)

RATIONALE

AMS7731C has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE

1.1 Form

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

1.2 Application

This product has been used typically for electronic components requiring essentially nonmagnetic properties, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org

ASTM E 8 Tension Testing of Metallic Materials

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall be not less than 99.97% by weight gold, determined by spectrochemical or other analytical methods approved by purchaser.

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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 22.0 ksi (150 MPa), determined in accordance with ASTM E 8.

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 1.

TABLE 1A – DIAMETER TOLERANCES (Inch)

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

TABLE 1B – DIAMETER TOLERANCES (SI Units)

Nominal Diameter Millimeter	Tolerance, Millimeter plus and minus
0.012	0.002
0.18	0.002
0.25	0.0038
0.38	0.0038
0.50	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 2.

TABLE 2A - THICKNESS TOLERANCES (Inch)

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

TABLE 2B - THICKNESS TOLERANCES (SI Units)

Nominal Thickness (T) Millimeters	Tolerance, Millimeter 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 3.

TABLE 3A - WIDTH TOLERANCES (Inch)

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

TABLE 3B - WIDTH TOLERANCES (Inch)

Nominal Width Millimeters	Tolerance, Millimeter 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