



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N. Y. 10001

AMS 4732

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Revised

COPPER-NICKEL ALLOY WIRE AND RIBBON 78Cu - 22Ni For Electronic Applications

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **APPLICATIONS:** Primarily for parts where essentially nonmagnetic properties are required.
3. **COMPOSITION:**

	min	max
Copper	77.0	79.5
Nickel	21.5	22.5
Manganese	--	0.35
Titanium	--	0.05
Sulfur	--	0.008

4. **CONDITION:** Cold drawn or cold rolled, and annealed and descaled, or bright annealed.
5. **TECHNICAL REQUIREMENTS:**
 - 5.1 **Tensile Strength:** Shall be not greater than 50,000 psi, determined in accordance with the issue of ASTM E8 listed in the latest issue of AMS 2350.
6. **QUALITY:** Material shall be uniform in quality, condition, temper, and cross section. Surfaces 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 fabrication or to performance of parts; magnification up to 30X may be used to determine conformance.
7. **SIZES AND TOLERANCES:**
 - 7.1 **Round Wire (Cold Drawn):** Unless otherwise specified, wire shall be supplied in the following sizes and to the tolerances shown.

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	0.0001
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

- 7.2 Ribbon (Cold Rolled): Unless otherwise specified, ribbon shall be supplied in the following sizes and to the tolerances shown.

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

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

8. REPORTS:

- 8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report of the results of tests to determine conformance to the chemical composition and tensile requirements of this specification. This report shall include the purchase order number, material specification number, size, and quantity.
- 8.2 Unless otherwise specified, the vendor of finished or semifinished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or other direct supplier of material, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.