



AEROSPACE MATERIAL

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

SPECIFICATION

AMS 4731

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Revised

NICKEL-COPPER ALLOY WIRE AND RIBBON

67Ni - 30Cu

For Electronic Applications

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

	min	max
Nickel & Cobalt	63.0	70.0
Iron	--	2.5
Manganese	--	2.0
Cobalt (1)	--	1.0
Aluminum	--	0.50
Silicon	--	0.50
Carbon	--	0.20
Sulfur	--	0.015
Phosphorus (1)	--	0.02
Zinc (1)	--	0.02
Lead (1)	--	0.006
Tin (1)	--	0.006
Copper	remainder	

(1) Determination not required for routine acceptance.

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 85,000 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
0.0040	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

- 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	0.001
0.016	0.0015
0.020	0.0015
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	0.007
1.000	0.007