



AEROSPACE MATERIAL

Society of Automotive Engineers, Inc.

TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

SPECIFICATION

AMS 7732

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Revised

STEEL WIRE, COPPER CLAD

99Fe

For Electronic Applications

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

4.1 **Basis Wire (Core):**

	min	max
Carbon	--	0.08
Manganese	0.25 - 0.40	
Phosphorus	--	0.04
Sulphur	--	0.05

- 4.1.1 **Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Carbon Steel, Wire Other Than Flat".
- 4.2 **Cladding (Sheath):** Shall be Electrolytic copper (99.90% min copper) conforming to ASTM B5.
5. **CONDITION:** Cold drawn or rolled, annealed, cleaned, clad, and annealed.
6. **TECHNICAL REQUIREMENTS:**
 - 6.1 **Cladding (Sheath) Thickness:** The weight of the completed core-and-sheath cross-section shall be 27 - 35% copper by weight. At any cross-section, the maximum thickness of the sheath shall not exceed twice the minimum thickness of the sheath.
 - 6.2 **Tensile Strength:** Shall be 50,000 - 100,000 psi, determined in accordance with the issue of ASTM E8 listed in the latest issue of AMS 2350.
 - 6.3 **Bending:** Finished wire shall be capable of withstanding bending at room temperature through an angle of 180 deg around a diameter equal to the nominal diameter of the wire without indication of cracking or of separation of the cladding (sheath) from the basis wire when examined under a magnification of 10X.
7. **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 compliance.

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