AERONAUTICAL MATERIAL SPECIFICATION

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AMS 4701

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Revised

COPPER WIRE
Annealed

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily for copper brazing, high conductivity bonding, and emergency safetying.

3. COMPOSITION: Wire shall be oxygen-free type and shall contain not less than 99.90 per cent copper, silver being counted as copper.

4. CONDITION: Cold drawn or rolled, and annealed.

5. TECHNICAL REQUIREMENTS: (a) Physical Properties.-

(1) Rounds, Hexagons, Octagons.-

Nominal Diameter or Thickness inch	Tensile Strength psi, max	Elongation % in 10 in., min
Up to 0.020, incl	--	20
Over 0.020 - 0.102, incl	38,500	25
Over 0.102 - 0.289, incl	37,000	30
Over 0.289	36,000	35

(2) Squares, Rectangles.-

Nominal Thickness inch	Tensile Strength psi, max	Elongation % in 10 in., min
Up to 0.010, incl	--	20
Over 0.010 - 0.020, incl	40,000	25
Over 0.020 - 0.050, incl	38,000	30
Over 0.050 - 0.187, incl	37,000	32

(b) Embrittlement.- Wire shall be capable of meeting the following bend test after being heated in a hydrogen atmosphere at approximately 1475 F for not less than 20 minutes:

Specimen shall be clamped between jaws having edge radii equal to 2.5 times the nominal diameter or thickness of wire in plane of bend. Specimen shall then be bent 90° over the edge of one jaw and returned to its initial position; this constitutes one bend. Specimen shall then be bent 90° in the reverse direction and again returned to its initial position; this constitutes another bend. Each bend shall be made in the opposite direction from that of the preceding bend. Specimens shall withstand the following number of bends without cracking or breaking: