AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 4720A

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SPRING WIRE
Phosphor Bronze

1. ACKNOWLEDGMENT: A vendor must mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. COMPOSITION:

Copper	94.00	- 96.00	
Tin	3.50	5.80	99.50 min
Phosphorus	0.03	0.35	
Zinc	0.30 max		
Iron	0.10 max		
Lead	0.05 max		

3. CONDITION: (a) Spring temper conforming to the following minimum physical properties:

Diameter or Thickness inch	Tensile Strength lb per sq in.	Elongation % in 2 in.
0.025 and under	150,000	
Over 0.025 to 0.0625, incl.	135,000	1.5
Over 0.0625 to 0.125, incl.	130,000	2.0
Over 0.125 to 0.250, incl.	125,000	3.5
Over 0.250 to 0.375, incl.	120,000	5.0
Over 0.375 to 0.500, incl.	105,000	9.0

(b) The wire shall withstand cold bending through an angle of 120 degrees over a radius equal to the thickness of the wire without cracking.

4. QUALITY: (a) The wire shall be uniform in quality and temper, uniform in cross sectional dimensions, clean, smooth, sound and free from injurious defects.

(b) The wire shall be capable of being formed into helical springs without cracking.

5. TOLERANCES: (a) When round wire is specified it shall be truly circular in cross section within 0.0007 inch.

(b) Permissible variations in nominal dimensions shall be as follows:

Nominal Dimensions inch	Tolerance, plus and minus inch
0.030 to 0.030, incl.	0.0005
Over 0.030 to 0.040, incl.	0.0007
Over 0.040 to 0.050, incl.	0.0008
Over 0.050 to 0.060, incl.	0.0010
Over 0.060 to 0.080, incl.	0.0015
Over 0.080 to 0.500, incl.	0.0020