AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5580A

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SEAMLESS TUBING, CORROSION AND HEAT RESISTANT

Nickel Chromium Iron Alloy

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

2. COMPOSITION:

Carbon	0.15 max
Manganese	1.00 max
Silicon	0.50 max
Chromium	12.00 - 15.00
Nickel	75.00 min
Iron	9.00 max
Copper	.50 max

3. CONDITION: (a) Cold drawn, annealed.

(b) Test pieces pulled at a rate of .05 inch per inch per minute shall conform to the following requirements:

Tensile Strength, lb/sq. inch,	105,000 max
Tensile Strength, lb/sq. inch,	80,000 min
Yield Strength, lb/sq. inch,	30,000 min
Elongation, % in 2 in.	35 min

(c) This tubing shall be capable of being expanded on a hardened and polished, tapered steel pin having a 60 degree included angle, to a diameter 35% greater than the original diameter without cracking.

4. QUALITY: (a) This material must be uniform in quality, free from surface and internal defects and must not reveal material defects during fabrication.

(b) All material shall be free from grease or other foreign matter and shall have a workmanlike finish.

5. TOLERANCE: (a) The following variations are permissible in the nominal outside diameter of tubes. All dimensions are in inches:

Nominal Outside Diameter	Tolerance, plus or minus
Less than 0.5	0.005
0.5 to less than 1.5	0.0075
1.5 to 3.5, inclusive	0.010
3.5 to 4, "	0.015

(b) The following variations are permissible in the wall thickness of the tubes:

Nominal Inside Diameter (Inches)	Tolerance, % of Wall Thickness
less than 0.5	± 15
0.5 and greater	± 10