AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5689

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STEEL WIRE, CORROSION AND HEAT RESISTANT
18Cr - 9.5Ni - Ti (SAE 30321)
Solution Heat Treated

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

2. APPLICATION: Primarily for screening and stitching requiring good corrosion resistance and which will be subjected to elevated temperatures during fabrication or in service. Material has satisfactory oxidation resistance up to approximately 1500 F, but is useful at that temperature only when stresses are low.

3. COMPOSITION:

		Check Analysis Under Min	Check Analysis Over Max
Carbon	0.08 max	--	0.01
Manganese	2.00 max	--	0.04
Silicon	1.00 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	17.00 - 19.00	0.20	0.20
Nickel	8.00 - 11.00	0.15	0.15
Titanium	6xC - 0.70	0.05	0.05
Molybdenum	0.50 max	--	0.03
Copper	0.50 max	--	0.03

4. CONDITION: Solution heat treated free from continuous carbide network, and bright finished.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Tensile Strength, psi Nominal Diameter, Inch	Coils	Straight Lengths
0.010 to 0.020, incl	125,000 max	135,000 max
Over 0.020 to 0.125, incl	115,000 max	125,000 max
Over 0.125 to 0.250, incl	105,000 max	115,000 max

5.2 Bending: Wire shall withstand, without cracking, bending at room temperature flat on itself.

6. QUALITY:

6.1 Material shall be uniform in quality and condition, cylindrical, clean, and free from kinks, twists, scrapes, splits, cold shuts and other injurious defects.