

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5721A

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STEEL, CORROSION AND HEAT RESISTANT 20Cr - 9Ni - 1.4Mo - 1.4W - Cb - Ti

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Bars up to and including one in. in diameter of rounds or distance between parallel sides of hexagons and squares.
3. APPLICATION: Parts, such as bolts, dowels and fittings, for use up to 1150 F.
4. COMPOSITION:

		Check Analysis	
		Under Min	or Over Max
Carbon	0.28 - 0.35	0.02	0.02
Manganese	0.75 - 1.50	0.04	0.04
Silicon	0.30 - 0.80	0.05	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	18.00 - 21.00	0.25	0.25
Nickel	8.00 - 11.00	0.15	0.15
Molybdenum	1.00 - 1.75	0.05	0.05
Tungsten	1.00 - 1.75	0.05	0.05
Columbium + Tantalum	0.25 - 0.60	0.05	0.05
Titanium	0.10 - 0.35	0.00	0.05
Copper	0.50 max	--	0.03

5. CONDITION: Hot rolled, with final rolling done at a temperature not lower than 1200 F, and stress relieved at not lower than 1200 F for not less than 4 hours. In addition to the above, hexagons shall be cold drawn for size.

6. TECHNICAL REQUIREMENT:

6.1 Physical Properties:

Tensile Strength, psi	120,000 min
Yield Strength at 0.2% offset or at 0.0109 inch in 2 in. extension under load, psi	100,000 min
Elongation, % in 4D	18 min
Reduction of Area, %	35 min
Hardness, Brinell	269-321

7. QUALITY: Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts.
8. TOLERANCES: Unless otherwise specified, tolerances shall conform to the latest issue of AMS 2241 as applicable to hot finished, except that hexagons shall conform to cold finished tolerances in Table I.