AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5705A

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STEEL, CORROSION AND HEAT RESISTANT
12.8Cr - 8.0Ni - 2.5Si

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

2. FORM: Bars, billets, and forgings.

3. APPLICATION: Primarily for parts, such as intake valves, requiring resistance to corrosion by combustion products at operating temperatures.

4. COMPOSITION:

		Check Analysis Under Min or Over Max	
Carbon	0.25 - 0.40	0.02	0.02
Manganese	0.65 max	--	0.03
Silicon	2.00 - 3.00	0.10	0.10
Phosphorus	0.030 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	11.50 - 14.00	0.15	0.15
Nickel	7.00 - 9.00	0.10	0.10
Molybdenum	0.50 max	--	0.03

5. CONDITION:

5.1 Bars and Forgings: Annealed, in a machinable condition, having a uniform refined structure. All hexagons, and other bars 2.75 in. and less in diameter or distance between parallel sides shall be cold finished.

5.2 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS:

6.1 Heat Treatment: Material shall be heated to 1600 F ± 25, held at that temperature for 4-6 hr and cooled in air.

6.2 Hardness: Shall be not higher than Brinell 285 or equivalent.

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. Diameter and thickness tolerances shall be as specified below:

8.1 All hexagons, and other bars 2.75 in. and less in diameter or distance between parallel sides - Table I.