

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

STEEL, CORROSION AND MODERATE HEAT RESISTANT 12Cr - 0.5Mo

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: Bars, forgings, and forging stock.
3. APPLICATION: Primarily for compressor blades and vanes.
4. COMPOSITION:

		<u>Check Analysis</u>	
		Under	Min or Over Max
Carbon	0.07 - 0.12	0.01	0.01
Manganese	0.30 - 0.60	--	0.03
Silicon	0.35 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	11.50 - 12.50	0.15	0.15
Nickel	0.60 max	--	0.03
Molybdenum	0.40 - 0.60	0.03	0.03
Copper	0.50 max	--	0.03

5. CONDITION:

- 5.1 Bars: Hot rolled, annealed, and descaled, or hot rolled, annealed and ground having hardness not higher than Brinell 223 or equivalent.
- 5.2 Forgings: As ordered.
- 5.3 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS:

6.1 Hardenability: Material shall be capable of meeting the following test:

- 6.1.1 Specimens 3/8 in. thick, cut from a bar or forging, shall be heated to 1750 F + 10, held at 1750 F + 10 for 30 min., cooled in air, and tempered at not lower than 1100 F for 1 hr followed by air cooling. Hardness of such specimens shall be Brinell 217-248 or equivalent.

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