AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5614

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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:**

			Check Analysis	
			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.