AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5602

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Revised

STEEL, LOW HEAT RESISTANT
5Cr - 0.5Mo

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

2. FORM: Bars, billets, and forgings.

3. APPLICATION: Parts requiring good oxidation resistance and good physical properties up to 800 F. The material is weldable with great care and should be handled carefully during any thermal treatment to avoid cracking.

4. COMPOSITION:

		Check Analysis	
		Under Min	Over Max
Carbon	0.10 - 0.20	0.00	0.00
Manganese	1.00 max	--	0.04
Silicon	1.00 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	4.00 - 6.00	0.10	0.10
Molybdenum	0.40 - 0.60	0.03	0.03

5. CONDITION: (a) Unless otherwise specified, bars and rods shall be hot rolled, annealed, pickled and oiled.

(b) Unless otherwise specified, forgings shall be annealed, pickled and oiled.

(c) Forging stock shall be supplied as ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS: (a) Hardness.- Unless otherwise specified, bars shall be supplied in a machinable condition with hardness not higher than Brinell 202, except that if cold-finished bars are ordered, hardness as high as Brinell 255 is permissible.

(b) Physical Properties after Heat Treatment.- Tensile test specimens which have been heated to 1650 F ± 10, cooled in still air to room temperature and tempered at 1000 F ± 10 for one hour shall conform to the following requirements:

Tensile Strength, psi	170,000 min
Yield Strength at 0.2% offset or at 0.0136 inch in 2 in. extension under load, psi	140,000 min
Elongation, % in 2 in. 4D	10 min
Reduction of Area, %	45 min

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