

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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STEEL CASTINGS, SAND
0.5Cr - 0.55Ni - 0.2Mo (0.25-0.33C)

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

2. APPLICATION: Primarily for parts requiring higher strength than cast carbon steel and which may be heat treated or welded.

3. COMPOSITION:

Carbon	0.25 - 0.33
Manganese	0.60 - 0.95
Silicon	0.30 - 0.60
Phosphorus	0.04 max
Sulfur	0.04 max
Chromium	0.40 - 0.90
Nickel	0.40 - 1.10
Molybdenum	0.15 - 0.25

4. CONDITION: Normalized and tempered, unless otherwise specified on the drawing.

5. TECHNICAL REQUIREMENTS:

5.1 Heat Treatment: Castings shall be normalized by heating to 1700 - 1750 F, holding at that temperature for not less than 1 hr per inch of maximum section but in no case less than 1 hr. followed by air cooling. They shall then be tempered at not lower than 1150 F for not less than 1 hr.

5.2 Hardness: Castings shall have hardness of Brinell 183 - 229 or equivalent.

6. QUALITY:

6.1 Castings shall be uniform in quality and condition, sound, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts. Castings shall have smooth surfaces and shall be well cleaned.

6.2 When castings are broken for fracture test, the fracture shall have uniform color and be substantially free from oxides and other defects.

6.3 Unless otherwise specified, castings shall be produced under radiographic control. ?

6.4 Inspection standards and procedures shall be as agreed upon by purchaser and vendor. ?

6.5 Castings shall not be repaired by plugging, welding or other methods without written permission from purchaser.

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