

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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STEEL CASTINGS, SAND, CORROSION AND HEAT RESISTANT 25Cr - 20Ni

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Parts, such as nozzle diaphragm vanes and assemblies requiring both corrosion and heat resistance, and where such parts may require welding during fabrication. Parts and assemblies requiring oxidation resistance up to approximately 2000F but useful at the higher temperatures only when stresses are very low. Strength at elevated temperatures is similar to that of the 18-8 types.

3. COMPOSITION:

Carbon	0.18 max
Manganese	2.00 max
Silicon	0.50-1.50
Phosphorus	0.04 max
Sulfur	0.04 max
Chromium	23.00-26.00
Nickel	19.00-22.00
Molybdenum	0.50 max
Copper	0.50 max

4. CONDITION: Annealed, unless otherwise specified.
5. TECHNICAL REQUIREMENTS: (a) Castings shall be annealed by heating to 2050F \pm 50, holding at that temperature for not less than 30 minutes and cooling in air.
(b) Castings after annealing shall have hardness not exceeding Brinell 170 or equivalent.
6. QUALITY: (a) Castings shall be homogeneous and free from cracks, blowholes, porosity, hard spots, foreign material, harmful shrinkage, and other injurious defects. Castings shall be smooth and well cleaned. Castings in which defects are revealed during fabrication will be subject to rejection.
(b) When castings are broken for fracture test, the fracture shall have a uniform color and be substantially free from oxides and other defects.
(c) Unless otherwise specified, castings shall be produced under radiographic control.
(d) Inspection standards and procedures shall be as agreed upon by purchaser and vendor.
(e) Castings shall not be repaired by plugging, welding or other methods without written permission from the purchaser.

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