AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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New York City

AMS 5389

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Revised

ALLOY CASTINGS, SAND, CORROSION AND HEAT RESISTANT
Nickel Base 17Mo - 15Cr - 6Fe - 5W

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

2. APPLICATION: Parts and assemblies, such as tail pipe and exhaust cone fittings, requiring high strength up to approximately 1500 F, and oxidation resistance up to 1800 F.

3. COMPOSITION:

Carbon	0.15 max
Manganese	1.00 max
Silicon	1.00 max
Molybdenum	15.00 - 18.00
Chromium	14.00 - 17.00
Iron	4.50 - 7.00
Tungsten	3.75 - 5.25
Vanadium	0.20 - 0.40
Cobalt, if determined	2.50 max
Nickel plus Cobalt	remainder

4. CONDITION: Annealed, unless otherwise specified.

5. TECHNICAL REQUIREMENTS: (a) Annealing.- Castings shall be annealed by heating to 2225 F ± 25, holding at that temperature for not less than 30 minutes and cooling in air.

(b) Hardness.- Castings shall have hardness not higher than Brinell 221 or equivalent.

6. QUALITY: (a) 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.

(b) When castings are broken for fracture test, the fracture shall have 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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