

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 5363B

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STEEL CASTINGS, SAND AND CENTRIFUGAL, CORROSION AND HEAT RESISTANT
18Cr - 10.5Ni - (Cb+Ta)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. APPLICATION: Parts and assemblies requiring both corrosion and heat resistance, and especially when such parts and assemblies are welded during fabrication. Parts and assemblies requiring oxidation resistance up to approximately 1500 F, but useful at that temperature only when stresses are low.
3. COMPOSITION:

Carbon	0.10 max
Manganese	2.0 max
Silicon	1.5 max
Phosphorus	0.04 max
Sulfur	0.04 max
Chromium	17.0 - 20.0
Nickel	9.0 - 12.0
Columbium + Tantalum	10xC - 1.35
Molybdenum	0.50 max
Copper	0.50 max
4. CONDITION: Solution heat treated free from continuous grain boundary carbide, \emptyset unless otherwise specified.
5. TECHNICAL REQUIREMENTS:
 - 5.1 Solution Heat Treatment: Castings shall be solution heat treated by heating to \emptyset 1950 F + 50, holding at heat for not less than 30 min., and cooling as necessary or desired.
 - 5.2 Hardness: Shall be not higher than Brinell 180 or equivalent.
 - 5.3 Embrittlement: Castings, after heat treatment as in 5.1, shall be capable of \emptyset meeting the following test:
 - 5.3.1 Test specimens, after being heated at 1200 F + 10 for 2 hr and air cooled, shall withstand immersion for 48 hr in a boiling aqueous solution containing 100 g of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and 100 ml of H_2SO_4 (sp gr 1.84) per liter of solution under a reflux condenser, without evidence of intercrystalline surface attack.

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