

AERONAUTICAL MATERIAL SPECIFICATION

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RIVETS, STEEL, CORROSION AND HEAT RESISTANT 18Cr - 11Ni - (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: Rivets requiring corrosion resistance, and heat and oxidation resistance up to approximately 1500 F, but not high strength at that temperature. Rivets should not be hand peened during riveting.

3. COMPOSITION:

		Check Analysis	
		Under Min	or Over Max
Carbon	0.08 max	--	0.01
Manganese	2.00 max	--	0.04
Silicon	1.00 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulphur	0.030 max	--	0.005
Chromium	17.00 - 19.00	0.20	0.20
Nickel	9.00 - 12.00	0.15	0.15
Columbium + Tantalum	10xC - 1.10	0.05	0.05
Molybdenum	0.50 max	--	0.03
Copper	0.50 max	--	0.03

4. CONDITION: Cold headed from cold-drawn material, unless purchaser permits machining. Unless otherwise specified, rivets shall be solution heat treated free from continuous carbide network.

5. TECHNICAL REQUIREMENTS:

5.1 Hardness: Rivets shall have hardness not higher than DPH (Vickers) 150 or equivalent, when determined on a flat surface.

5.2 Embrittlement: Rivets shall be capable of meeting the following test:

5.2.1 Representative rivets, after being heated at 1200 F 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 inter-crystalline surface attack.

5.3 Rivets shall be capable of being driven satisfactorily with a full head free from cracks.

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