

AERONAUTICAL MATERIAL SPECIFICATION

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RIVETS, STEEL, CORROSION AND HEAT RESISTANT 18Cr - 11Ni - Cb

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number 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
Sulfur	0.030 max	--	0.005
Chromium	17.00 - 19.00	0.20	0.20
Nickel	9.00 - 13.00	0.15	0.15
Columbium	10Xc - 1.00	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:** Unless otherwise specified, 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.
6. **QUALITY:** Rivets shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to their performance.

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