

AERONAUTICAL MATERIAL SPECIFICATION

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STEEL TUBING, SEAMLESS, CORROSION AND HEAT RESISTANT 25Cr - 20Ni (SAE 30310)

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number 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 2000 F, but useful at that temperature only when stresses are low.
3. **COMPOSITION:**

Check Analysis			
Under Min or Over Max			
Carbon	0.12 max	----	0.01
Manganese	2.00 max	----	0.04
Silicon	0.75 max	----	0.05
Phosphorus	0.040 max	----	0.005
Sulfur	0.030 max	----	0.005
Chromium	24.00 - 26.00	0.25	0.25
Nickel	19.00 - 22.00	0.20	0.20
Molybdenum	0.50 max	----	0.03
Copper	0.50 max	----	0.03

4. **CONDITION:** Solution heat treated and pickled, or as ordered.
5. **TECHNICAL REQUIREMENTS:**

5.1 **Physical Properties:**

Tensile strength, psi	100,000 max
Elongation, % in 2 in.	
Strip	35 min
Full Section	40 min

- 5.2 **Flareability:** Tubing shall be capable of being flared without formation of cracks or other visible defects. Specimens for flaring may be cut from any portion of the tube, or an entire tube may be used as a specimen. The end of the specimen to be flared shall be cut square, with the cut end smooth and free from burrs, but not rounded. The specimen shall, at room temperature, be forced axially with steady pressure over a hardened and polished tapered steel pin having a 74 degree included angle, to a diameter not less than 1.35 times the nominal outside diameter when under load. The specimen and the pin shall be clean and dry during the test.
6. **QUALITY:** Tubing shall have a good workmanlike finish conforming to the best practice for high quality aircraft material. Tubing shall be uniform in quality and condition, clean, sound, and free from grease or other foreign matter, and from internal and external defects detrimental to fabrication or to performance of parts.

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