

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 5554

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

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Revised

STEEL TUBING, SEAMLESS, CORROSION AND MODERATE HEAT RESISTANT
16.5Cr - 4.5Ni - 2.9Mo - 0.1N

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for parts and assemblies, such as fluid lines, requiring high strength and oxidation resistance up to 800 F.
3. COMPOSITION:

		Check Analysis	
		Under Min	or Over Max
Carbon	0.08 - 0.12	0.01	0.01
Manganese	0.50 - 1.25	0.04	0.04
Silicon	0.50 max	--	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	16.00 - 17.00	0.20	0.20
Nickel	4.00 - 5.00	0.07	0.07
Molybdenum	2.50 - 3.25	0.10	0.10
Nitrogen	0.07 - 0.13	0.01	0.01

4. CONDITION: Cold drawn, annealed, and descaled.
 - 4.1 Fabrication: Any surface finishing operation applied to remove objectionable pits and surface blemishes shall be performed prior to the final anneal. A light polish to improve surface appearance may be employed after the final anneal. Passivation treatment shall follow any polishing treatment.
5. TECHNICAL REQUIREMENTS:
 - 5.1 Heat Treatment: Unless otherwise specified, tubing shall be annealed by heating to 1850 - 1975 F, holding at heat for not less than 90 min. per in. of wall thickness, and quenching in water or otherwise cooling as rapidly as possible to room temperature.
 - 5.2 Flarability: 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 deg included angle, to produce a flare having a permanent expanded OD not less than 1.20 times the original nominal OD.

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