AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 4574A

Issued 5-1-48
Revised 6-15-50

NICKEL-COPPER ALLOY TUBING, SEAMLESS, CORROSION RESISTANT
67Ni - 30Cu
Annealed

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily for fluid lines, such as primer and fuel lines, requiring corrosion resistance with strength relatively high for non-ferrous alloys.

3. COMPOSITION:

Nickel + Cobalt	63.00 - 70.00
Iron	2.50 max
Manganese	2.00 max
ø Cobalt, if determined	1.00 max
Silicon	0.50 max
Aluminum	0.50 max
Carbon	0.30 max
Sulfur	0.02 max
Copper	remainder

4. CONDITION: Cold-drawn and annealed.

5. TECHNICAL REQUIREMENTS:

5.1 Physical Properties:

ø Tensile Strength, psi	85,000 max
Elongation, % in 2 in.	32 min

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 ø 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 produce a flare having the permanent expanded OD specified in the following table.

Nominal OD Inch	Expanded OD Inch, min	Nominal OD Inch	Expanded OD Inch, min
0.188	0.290	0.750	0.937
0.250	0.359	1.000	1.187
0.312	0.421	1.250	1.500
0.375	0.484	1.500	1.721
0.500	0.656	1.750	2.106
0.625	0.781	2.000	2.356

ø Note 1: Tubing with intermediate nominal OD shall take the same percentage flare as that for the next larger OD.

Section 7C of the SAE Technical Board rules provides that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

SAENORM.COM : Click to view the full PDF of ams4574a

Copyright 1950 by Society of Automotive Engineers, Inc.

Printed in U.S.A.