

AEROSPACE MATERIAL SPECIFICATION



AMS 6550J

Issued	APR 1943
Revised	JAN 1982
Noncurrent	APR 1988
Cancelled	JUL 2001

Superseding AMS 6550H

Steel Tubing, Welded
0.50Cr - 0.55Ni - 0.20Mo (0.28 - 0.33C) (SAE 8630)

UNS G86300

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1. SCOPE:

1.1 Form:

This specification covers an aircraft-quality, low-alloy steel in the form of welded tubing.

1.2 Application:

Primarily for general use in light wall-thickness sections where minimum tensile strength up to 160,000 psi (1105 MPa) is required and parts may be welded during fabrication.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

- AMS 2253 Tolerances, Carbon and Alloy Steel Tubing
- AMS 2259 Chemical Check Analysis Limits, Wrought Low-Alloy and Carbon Steels
- AMS 2301 Aircraft Quality Steel Cleanliness, Magnetic Particle Inspection Procedure
- AMS 2350 Standards and Test Methods
- AMS 2370 Quality Assurance Sampling of Carbon and Low-Alloy Steels, Wrought Products Except Forgings and Forging Stock
- AMS 2640 Magnetic Particle Inspection

2.2 ASTM Publications:

Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

- ASTM A370 Mechanical Testing of Steel Products
- ASTM E112 Estimating the Average Grain Size of Metals
- ASTM E350 Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron, and Wrought Iron



2.3 U.S. Government Publications:

Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Federal Standards:

Federal Test Method Standard No. 151 - Metals; Test Methods

2.3.2 Military Standards:

MIL-STD-163 Steel Mill Products, Preparation for Shipment and Storage

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Shall conform to the following percentages by weight, determined by wet chemical methods in accordance with ASTM E350, by spectrographic methods in accordance with Federal Test Method Standard No. 151, Method 112, or by other analytical methods approved by purchaser:

	min	max
Carbon	0.28	0.33
Manganese	0.70	0.90
Silicon	0.15	0.35
Phosphorus	--	0.025
Sulfur	--	0.025
Chromium	0.40	0.60
Nickel	0.40	0.70
Molybdenum	0.15	0.25
Copper	--	0.35

3.1.1 Check Analysis: Composition variations shall meet the applicable requirements of AMS 2259.

3.2 Condition:

Cold finished and either normalized and tempered, stress-relieved, or otherwise heat treated.

3.3 Fabrication:

Tubing shall be produced by a welded and drawn process. The external and internal surface finishes may be produced by any method which will provide the required surface condition and not affect the limits of wall thickness, with the exception that centerless ground finish is not acceptable. A light polish to improve surface appearance may be employed.