

AEROSPACE MATERIAL SPECIFICATION



AMS 6535H

Issued	SEP 1942
Revised	APR 1982
Noncurrent	APR 1988
Cancelled	JUL 2001

Superseding AMS 6535G

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

(Composition similar to UNS 86300)

CANCELLATION NOTICE

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1. SCOPE:

1.1 Form:

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

1.2 Application:

Primarily for use where welding and moderate tensile properties are required. May be used where minimum tensile strength up to 180,000 psi (1240 MPa) is required for wall thicknesses up to 0.125 in. (3 mm) and proportionately lower strength is required in heavier thicknesses.

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	0.33	0.38
Manganese	0.75	1.00
Silicon	0.15	0.35
Phosphorus	--	0.025
Sulfur	--	0.025
Chromium	0.40	0.60
Nickel	0.40	0.70
Molybdenum	0.20	0.30
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 Properties:

Tubing shall conform to the following requirements; hardness and tensile testing shall be performed in accordance with ASTM A370:

3.4.1 Tensile Properties: Shall be as specified in Table I.