

AEROSPACE MATERIAL SPECIFICATION



AMS 6406D

Issued	JUN 1960
Revised	OCT 1979
Noncurrent	APR 1987
Cancelled	JUL 2001

Superseding AMS 6406C

Steel Sheet, Strip, and Plate
1.6Si - 2.1Cr - 0.58Mo - 0.05V (0.41-0.46C)
Annealed

UNS K34378

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1. SCOPE:

1.1 Form:

This specification covers an aircraft-quality, low-alloy steel in the form of sheet, strip, and plate.

1.2 Application:

Primarily for heat treated parts and structures that may require welding during fabrication and may be through-hardened to a minimum tensile strength of 270,000 psi (1862 MPa) in sections of 2 in. (50 mm) or less in nominal thickness.

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 Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2252	Tolerances, Low-Alloy Steel Sheet, Strip, and Plate
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

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 E45	Determining the Inclusion Content of Steel
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
ASTM E381	Rating Macroetched Steel

2.3 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	0.41	0.46
Manganese	0.75	1.00
Silicon	1.40	1.75
Phosphorus	--	0.015
Sulfur	--	0.015
Chromium	1.90	2.25
Molybdenum	0.45	0.60
Vanadium	0.03	0.08
Nickel	--	0.25
Copper	--	0.35

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

3.2 Condition:

The product shall be supplied in the following condition:

3.2.1 Sheet and Strip: Cold finished, annealed, and descaled.

3.2.2 Plate: Hot rolled, annealed, and descaled.