



AEROSPACE MATERIAL SPECIFICATION

AMS5549™**REV. H**

Issued	1959-11
Revised	1987-04
Noncurrent	1993-04
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Stabilized	2017-04

Superseding AMS5549G

Steel, Corrosion and Heat Resistant, Plate
15.5Cr - 4.5Ni - 2.9Mo - 0.10N
Solution Heat Treated

UNS S35500

RATIONALE

AMS5549H stabilizes this document because it contains mature technology that is not expected to change and thus no further revisions are anticipated.

STABILIZED NOTICE

AMS5549H has been declared "STABILIZED" by the SAE AMS F Corrosion Heat Resistant Alloys Committee. This document was stabilized because this document contains mature technology that is not expected to change and thus no further revisions are anticipated. Previously this document was non-current. The last technical update of this document occurred in April, 1987. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification; including exceptions listed on the certification.

NOTE: In many cases, the purchaser may represent a sub tier supplier and not the cognizant engineering organization.

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Documents
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1. SCOPE:

1.1 Form:

This specification covers a corrosion and moderate heat resistant steel in the form of plate.

1.2 Application:

Primarily for parts requiring oxidation resistance and high strength up to 800°F (425°C) and where such parts may require welding 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 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 2242	Tolerances, Corrosion and Heat Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Sheet, Strip, and Plate
MAM 2242	Tolerances, Metric, Corrosion and Heat Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Sheet, Strip, and Plate
AMS 2248	Chemical Check Analysis Limits, Wrought Corrosion and Heat Resistant Steel and Alloys, Maraging and Other Highly-Alloyed Steels, and Iron Alloys
AMS 2350	Standards and Test Methods
AMS 2371	Quality Assurance Sampling of Corrosion and Heat Resistant Steels and Alloys, 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 E353	Chemical Analysis of Stainless, Heat-Resisting, Maraging, and Other Similar Chromium-Nickel-Iron Alloys

2.3 U.S. Government Publications:

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

2.3.1 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 E353 or by spectrographic or other analytical methods approved by purchaser:

	min	max
Carbon	0.10	0.15
Manganese	0.50	1.25
Silicon	--	0.50
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	15.00	16.00
Nickel	4.00	5.00
Molybdenum	2.50	3.25
Nitrogen	0.07	0.13

3.1.2 Check Analysis: Composition variations shall meet the applicable requirements of AMS 2248.

3.2 Condition:

Hot rolled, solution heat treated free from continuous carbide network, and descaled.

3.3 Solution Heat Treatment:

The product shall be solution heat treated by heat to 1900°F ± 25 (1040°C ± 15), holding at heat for 1 - 3 hr, and quenching in water or otherwise cooling as rapidly as possible to room temperature.