



AEROSPACE MATERIAL SPECIFICATION

AMS5629™/H950

Issued 2023-03

Steel, Corrosion-Resistant, Bars, Wire, Forgings, Rings, and Extrusions
13Cr - 8.0Ni - 2.2Mo - 1.1Al
Vacuum Induction Plus Consumable Electrode Melted
Solution Heat Treated, Precipitation Hardened (H950)
(Composition similar to UNS S13800)

RATIONALE

AMS5629/H950 is a new specification for the purchase of corrosion-resistant steel product in the solution and precipitation heat treated (H950) condition.

1. SCOPE

1.1 Form

This specification covers a corrosion-resistant steel product 12 inches (305 mm) and under in nominal diameter, thickness, or for hexagons, least distance between parallel sides in the solution and precipitation heat treated (H950) condition.

1.1.1 The aged product may be supplied directly by a producer or by another entity performing the functions of a producer as defined in AS6279. The latter can be accomplished by precipitation heat treatment of solution treated material previously certified to AMS5629. The entity assuming responsibility for the aging operation is designated the producer of AMS5629/H950.

1.2 Application

These products have been used typically for parts requiring corrosion resistance and high strength up to 600 °F (316 °C) with good ductility and strength in the transverse direction in large sections sizes, but usage is not limited to such applications (see 8.1).

1.2.1 Certain design and processing procedures may cause these products to become susceptible to stress-corrosion cracking after heat treatment. ARP1110 recommends practices to minimize such conditions.

1.3 Classification

Classification shall be in accordance with AMS5629.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

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Full document details: SAE AMS5629_H950

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS5629/H950/>

Documents

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2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2241	Tolerances, Corrosion- and Heat-Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Bars and Wire
AMS2759/3	Heat Treatment, Precipitation-Hardening Corrosion-Resistant and Maraging Steel Parts
AMS2761	Heat Treatment of Steel Raw Materials
AMS5629	Steel, Corrosion-Resistant, Bars, Wire, Tubing, and Rings, 16Cr - 4.0Ni - 0.30Cb (Nb) - 4.0Cu, Solution Heat Treated, Precipitation Hardenable
ARP1110	Minimizing Stress Corrosion Cracking in Wrought Forms of Steels and Corrosion Resistant Steels and Alloys
AS6279	Industry Standard Practices for Production, Distribution, and Procurement of Metal Stock
AS7766	Terms Used in Aerospace Metals Specifications

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM A370	Mechanical Testing of Steel Products
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2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall be in accordance with AMS5629.

3.2 Melting Practice and Delta Ferrite Class

Shall be in accordance with AMS5629.

3.3 Condition

Shall be in accordance with AMS5629 and the following:

3.3.1 The product shall be supplied in the precipitation hardened (H950) heat treat condition.

3.3.2 Bar shall not be cut from plate (see 4.3.3).

3.4 Heat Treatment

Shall be in accordance with AMS5629 and the following:

3.4.1 Precipitation Heat Treatment

3.4.1.1 Shall be in accordance with the requirements applicable to either AMS2761 or AMS2759/3 at the producer's option, except acceptance testing and criteria shall be as specified in 3.5.3.1.



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