



AEROSPACE MATERIAL SPECIFICATION

AMS5934/H1025™

Issued

2024-08

Steel, Extra High Toughness, 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 (H1025)

(Composition similar to UNS S13800)

RATIONALE

AMS5934/H1025 is a new specification for the purchase of corrosion-resistant steel product in the solution and precipitation heat-treated (H1025) condition.

1. SCOPE

1.1 Form

This specification covers a corrosion-resistant steel product in the solution and precipitation heat-treated (H1025) condition, 12 inches (305 mm) and under in nominal diameter, thickness, or, for hexagons, least distance between parallel sides.

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 AMS5934. The entity assuming responsibility for the aging operation is designated the producer of AMS5934/H1025.

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.

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.

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2024 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or used for text and data mining, AI training, or similar technologies, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE AMS5934_H1025

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS5934/H1025>

Documents

Standard, visit Sharing Hub

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, Maraging, and Secondary Hardening Steel Parts
AMS2759/11	Stress Relief of Steel Parts
AMS2761	Heat Treatment of Steel Raw Materials
AMS5934	Steel, Extra High Toughness, 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-Hardenable
ARP1110	Minimizing Stress Corrosion Cracking in Wrought Forms of Steels, and Corrosion Resistant Steels and Alloys
AS6279	Standard Practice 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
-----------	--------------------------------------

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Composition shall be in accordance with AMS5934.

3.2 Melting Practice

Melting practice shall be in accordance with AMS5934 as ordered.

3.3 Condition

Product shall be in accordance with AMS5934 and the following:

3.3.1 The product shall be supplied in the precipitation hardened (H1025) heat-treat condition.

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