



AEROSPACE MATERIAL SPECIFICATION

AMS5622/H1025™

REV. A

Issued 2015-01
Revised 2025-02

Superseding AMS5622/H1025

(R) Steel, Corrosion-Resistant, Bars, Wire, Forgings, Mechanical Tubing, and Rings
16Cr - 4.0Ni - 0.30Cb - 4.0Cu
Solution Heat Treated, Precipitation Hardened (H1025)
Consumable Electrode Remelted
(Composition similar to UNS S17400)

RATIONALE

AMS5622/H1025A is the result of a Five-Year Review and update of the specification. The revision updates requirements throughout to align with other precipitation-hardened alloys. The revision clarifies the meaning of producer (see 1.1.1), adds classifications for consistency with base specification (see 1.3 and 8.5), adds requirements to stress relief (see 3.4.2 and 8.5), updates tensile testing and limits for transverse testing (see 3.5.3.1), adds property note (see Table 1), clarifies tolerance requirements (see 3.7), updates reporting (see 4.3), provides reheat treatment option (see 8.4), and updates the exclusion requirements (see 1.1, 3.5.3.5, 3.8, 4.3.4, 5.1, and 8.3).

1. SCOPE

1.1 Form

This specification covers a corrosion-resistant steel product 8 inches (203 mm) and under in nominal diameter, thickness, or for hexagons least distance between parallel sides in the solution and precipitation heat-treated (H1025) condition.

1.1.1 The aged product may be supplied directly by a producer or by any other entity performing the functions of a producer as defined in AS7766. The latter can be accomplished by precipitation heat treatment of solution-treated material previously certified to AMS5622. The entity assuming responsibility for the aging operation is designated the producer of AMS5622/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 section sizes, but usage is not limited to such applications.

1.3 Classification

Product covered by this specification is classified as follows:

Type 1 - Steel multiple melted using vacuum consumable electrode in the final melt.

Type 2 - Steel multiple melted using electroslag process in the final melt.

1.3.1 Unless a specific type is ordered, either type may be supplied.

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Documents

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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.

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
AMS5622	Steel, Corrosion-Resistant, Bars, Wire, Forgings, Mechanical Tubing, and Rings, 16Cr - 4.0Ni - 0.30Cb - 4.0Cu, Solution Heat Treated, Precipitation Hardenable, Consumable Electrode Remelted
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

Composition shall be in accordance with AMS5622.

3.2 Melting Practice

Melting practice shall be in accordance with AMS5622 as ordered.

3.3 Condition

Product shall be in accordance with AMS5622 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).