



AEROSPACE MATERIAL SPECIFICATION

AMS5888™**REV. E**

Issued 1990-04
Reaffirmed 2015-04
Revised 2026-07

Superseding AMS5888D

Nickel Alloy, Corrosion- and Heat-Resistant, Plate,
54Ni - 22Cr - 12.5Co - 9.0Mo - 1.2Al (Alloy 617),
Consumable Electrode or Vacuum Induction Melted,
Annealed
(Composition similar to UNS N06617)

RATIONALE

AMS5888E is the result of a Five-Year Review and update of the specification. The revision updates the Title to reflect the melting route and adds the common name (see 8.5), revises composition testing and reporting (see 3.1 and 3.1.1), updates strain rate requirements (see 3.5.1.1.1), clarifies tensile test size limits (see 3.5.1.1.2 and 3.5.1.1.3), and standardizes bend testing (see 3.5.3).

1. SCOPE

1.1 Form

This specification covers a corrosion- and heat-resistant nickel alloy in the form of plate nominally 2.00 inches (50.8 mm) and under in thickness, inclusive.

1.2 Application

This plate has been used typically for parts requiring a combination of high strength and resistance to oxidation and corrosion up to 2200 °F (1204 °C) and where such parts may require welding during fabrication, but usage is not limited to such applications.

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: 1-877-606-7323 (U.S. and Canada only) or 1-724-776-4970 (outside U.S. and Canada), www.sae.org.

AMS2262 Tolerances, Nickel, Nickel Alloy, and Cobalt Alloy Sheet, Strip, and Plate

AMS2269 Chemical Check Analysis Limits, Nickel, Nickel Alloys, and Cobalt Alloys

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<https://www.sae.org/standards/content/AMS5888E/>

Documents

Standard, visit Sharing Hub

AMS2283	Composition Testing Methods for Nickel- and Cobalt-Based Alloys
AMS2371	Quality Assurance Sampling and Testing, Corrosion- and Heat-Resistant Steels and Alloys, Wrought Products and Forging Stock
AMS2750	Pyrometry
AMS2807	Identification, Carbon and Low-Alloy Steels, Corrosion- and Heat-Resistant Steels and Alloys, Sheet, Strip, Plate, and Aircraft Tubing
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 E8/E8M	Tension Testing of Metallic Materials
ASTM E21	Elevated Temperature Tension Tests of Metallic Materials
ASTM E139	Conducting Creep, Creep-Rupture, and Stress-Rupture Tests of Metallic Materials
ASTM E290	Bend Testing of Material for Ductility

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Composition shall conform to the percentages by weight shown in Table 1, determined in accordance with AMS2283 or by other analytical methods acceptable to the purchaser.

Table 1 - Composition

Element	Min	Max
Carbon	0.05	0.15
Manganese	--	0.50
Silicon	--	0.50
Phosphorous	--	0.015
Sulfur	--	0.015
Chromium	20.00	24.00
Cobalt	10.00	15.00
Molybdenum	8.00	10.00
Aluminum	0.80	1.50
Titanium	--	0.60
Boron	--	0.006
Iron	--	3.00
Copper	--	0.50
Nickel	remainder	