



AEROSPACE MATERIAL SPECIFICATION

AMS5873™**REV. H**Issued 1973-12
Revised 2025-12

Superseding AMS5873G

(R) Nickel Alloy, Corrosion- and Heat-Resistant, Sheet, Strip, and Plate,
65Ni - 15.8Cr - 15.2Mo - 0.30Al - 0.05La (HASTELLOY® S),
Consumable Electrode Remelted, Solution Heat Treated
(Composition similar to UNS N06635)

RATIONALE

AMS5873H is the result of a Five-Year Review and update of the specification. The revision adds the trade name to the Title (see 8.5), updates composition testing and reporting (see 3.1 and 3.1.1), revises finish requirements (see 3.3.1), adds strain rate control during tensile testing (see 3.5.2.1), clarifies bending requirements (see 3.5.3), and updates the exceptions requirements (see 8.4).

1. SCOPE

1.1 Form

This specification covers a corrosion- and heat-resistant nickel alloy in the form of sheet, strip, and plate.

1.2 Application

These products have been used typically for formed and drawn parts, such as turbine seals, burner liners, exhaust cone assemblies, and nozzle diaphragm vanes, requiring relatively high strength up to 1800 °F (982 °C) and oxidation resistance up to 2000 °F (1093 °C), 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: 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

AMS2283 Composition Testing Methods for Nickel- and Cobalt-Based Alloys

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Documents

Standard, visit Sharing Hub

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 E112	Determining Average Grain Size
ASTM E139	Conducting Creep, Creep-Rupture, and Stress-Rupture Tests of Metallic Materials
ASTM E290	Bend Test of Materials 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	--	0.02
Manganese	0.30	1.00
Silicon	0.20	0.75
Phosphorus	--	0.020
Sulfur	--	0.015
Chromium	14.50	17.00
Molybdenum	14.00	16.50
Aluminum	0.10	0.50
Lanthanum	0.01	0.10
Cobalt	--	2.00
Tungsten	--	1.00
Boron	--	0.015
Iron	--	3.00
Copper	--	0.35
Nickel	remainder	