



AEROSPACE MATERIAL SPECIFICATION

AMS5672™**REV. D**

Issued	1970-05
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Noncurrent	2001-10
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Stabilized	2017-04

Superseding AMS5672C

Steel Wire, Corrosion Resistant
11.8Cr - 8.5Ni - 0.30(Cb + Ta) - 1.1Ti - 2.0Cu
Precipitation Hardenable, Spring Temper
(Composition similar to UNS45500)

RATIONALE

AMS5672D stabilizes this document because it contains mature technology that is not expected to change and thus no further revisions are anticipated.

STABILIZED NOTICE

AMS5672D has been declared "STABILIZED" by the SAE AMS F Corrosion Heat Resistant Alloys Committee. This document was stabilized because this document contains mature technology that is not expected to change and thus no further revisions are anticipated. Previously this document was non-current. The last technical update of this document occurred in October, 1987. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification; including exceptions listed on the certification.

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1. SCOPE:

1.1 Form:

This specification covers a corrosion-resistant steel in the form of wire.

1.2 Application:

Primarily for springs requiring corrosion resistance and high strength up to 600 °F (315 °C).

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

2.1.1 Aerospace Material Specifications:

- AMS 2248 Chemical Check Analysis Limits, Wrought Corrosion and Heat Resistant Steels and Alloys, Maraging and Other Highly-Alloyed Steels, and Iron Alloys
- AMS 2350 Standards and Test Methods
- AMS 2371 Quality Assurance Sampling of Corrosion and Heat Resistant Steels and Alloys, Wrought Products Except Forgings and Forging Stock

2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103.

- ASTM A370 Mechanical Testing of Steel Products
- ASTM E353 Chemical Analysis of Stainless, Heat-Resisting, Maraging, and Other Similar Chromium-Nickel-Iron Alloys

2.3 U.S. Government Publications:

Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Military Standards:

- MIL-STD-163 Steel Mill Products, Preparation for Shipment and Storage

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Shall conform to the following percentages by weight, determined by wet chemical methods in accordance with ASTM E353 or by spectrochemical or other analytical methods approved by purchaser:

	min	max
Carbon	–	0.05
Manganese	–	0.50
Silicon	–	0.50
Phosphorus	–	0.025
Sulfur	–	0.025
Chromium	11.00	12.50
Nickel	7.50	9.50
Columbium + Tantalum	0.10	0.50
Titanium	0.80	1.40
Copper	1.50	2.50
Molybdenum	–	0.50
Nitrogen	–	0.015

3.1.1 Check Analysis: Composition variations shall meet the requirements of AMS 2248.

3.2 Condition:

Spring temper, cold drawn to required size.

3.2.1 Wire ordered for coiling on automatic spring-winding machines shall be coated with a suitable lubricant.

3.3 Properties:

Wire shall conform to the following requirements; tensile and wrapping tests shall be performed in accordance with ASTM A370:

3.3.1 Tensile Properties: Wire, as cold-drawn, shall have the tensile strength specified in Table I, Column A. Wire shall have the tensile strength specified in Table I, Column B, after being precipitation heat treated by heat to 850 °F ± 10 (455 °C ± 5), holding at heat for 30 min. ± 3, and cooling in air.