ADOPTION NOTICE

SAE-AMS5674, "STEEL, CORROSION AND HEAT RESISTANT, WIRE, 18CR - 11.5NI - 0.70 (CB+TA) (SAE 30347) SOLUTION HEAT TREATED", was adopted on 07-JUL-93 for use by the Department of Defense (DoD). Proposed changes by DoD activities must be submitted to the DoD Adopting Activity: ASC/ENOI, Building 560, 2530 Loop Road West, Wright-Patterson AFB, OH 45433-7101. Copies of this document may be purchased from the Society of Automotive Engineers 400 Commonwealth Drive Warrendale, Pennsylvania, United States, 15096-0001. http://www.sae.org/

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AEROSPACE MATERIAL SPECIFICATION

An American National Standard

SAE AMS 5674D

Issued 1 MAY 1969
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Superseding AMS 5674C

STEEL, CORROSION AND HEAT RESISTANT, WIRE
18Cr - 11.5Ni - 0.70 (Cb+Ta) (SAE 30347)
Solution Heat Treated

UNS S34700

1. SCOPE:

1.1 Form:

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

1.2 Application:

This product has been used typically for screening and stitching applications requiring good corrosion resistance and which will be subjected to elevated temperatures during fabrication or in service, but usage is not limited to such applications. Wire has satisfactory oxidation resistance up to 1500 °F (816 °C) but is useful at that temperature only when stresses are low.

2.1 SAE Publications:

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

AMS 2241 Tolerances, Corrosion and Heat Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Bars and Wire
MAM 2241 Tolerances, Metric, Corrosion and Heat Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Bars and Wire
AMS 2248 Chemical Check Analysis Limits, Wrought Corrosion and Heat Resistant Steels and Alloys, Maraging and Other Highly-Alloyed Steels, and Iron Alloys
AMS 2371 Quality Assurance Sampling and Testing, Corrosion and Heat Resistant Steels and Alloys, Wrought Products and Forging Stock

2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM A 370 Mechanical Testing of Steel Products
ASTM E 353 Chemical Analysis of Stainless, Heat-Resisting, Maraging, and Other Similar Chromium-Nickel-Iron Alloys

2.3 U.S. Government Publications:

Available from Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

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

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

(R)

Shall conform to the percentages by weight shown in Table 1, determined by wet chemical methods in accordance with ASTM E 353, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

TABLE 1 - Composition

Element	min	max
Carbon	--	0.08
Manganese	--	2.00
Silicon	--	1.00
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	17.00	19.00
Nickel	9.00	12.00
Columbium + Tantalum	10xC	1.10
Molybdenum	--	0.75
Copper	--	0.50

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

3.2 Condition:

Solution heat treated free from continuous carbide network and bright finished.

3.3 Properties:

Wire shall conform to the following requirements:

3.3.1 Tensile Properties: Shall be as specified in Table 2, determined in accordance with ASTM A 370:

TABLE 2A - Maximum Tensile Properties, Inch/Pound Units

Nominal Diameter Inch	Tensile Strength Coils ksi	Tensile Strength Straight Lengths ksi
Up to 0.020, incl	125	135
Over 0.020 to 0.125, incl	115	125
Over 0.125	105	115

TABLE 2B - Maximum Tensile Properties, SI Units

Nominal Diameter Millimeters	Tensile Strength Coils MPa	Tensile Strength Straight Lengths MPa
Up to 0.51, incl	862	931
Over 0.51 to 3.18, incl	793	862
Over 3.18	724	793

3.3.2 Bending: Wire shall withstand, without cracking, bending flat on itself.

3.4 Quality:

Wire, as received by purchaser, shall be uniform in quality and condition, cylindrical, and free from kinks, twists, scrapes, splits, cold shuts, and other imperfections detrimental to usage of the wire.

3.4.1 The surface shall have a bright, smooth finish free from pits, abrasions, and other defects.

3.5 Tolerances:

Shall conform to all applicable requirements of AMS 2241 or MAM 2241.