SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

AMS 5739E

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Noncurrent	AUG 1991
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Cancelled	MAY 2006
Superseding	AMS 5739D

Steel, Corrosion and Moderate Heat Resistant, Bars, Forgings, and Rings
14.5Cr - 6.5Ni - 0.72Ti
Solution Heat Treated and Maraged, 180,000 psi (1240 MPa) Tensile Strength
UNS S36200

CANCELLATION NOTICE

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Full document details: SAE AMS5739E

1. SCOPE:

1.1 Form:

This specification covers a corrosion and moderate heat resistant steel in the form of bars, wire, forging, flash welded rings, and stock for forging or flash welded rings.

1.2 Application:

Primarily for parts 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.

2.1.1 Aerospace Material Specifications:

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 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
AMS 2374	Quality Assurance Sampling of Corrosion and Heat Resistant Steels and Alloys, Forgings and Forging Stock
AMS 2375	Control of Forgings Requiring First Article Approval
AMS 2806	Identification, Bars, Wire, Mechanical Tubing, and Extrusions, Carbon and Alloy Steels and Heat and Corrosion Resistant Steels and Alloys
AMS 2808	Identification, Forgings
AMS 7490	Rings, Flash Welded, Corrosion and Heat Resistant Austenitic Steels and Austenitic-Type Alloys

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2.2 ASTM Publications:

Available from American Society for Testing and Materials, 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 spectrographic or other analytical methods approved by purchaser:

	min	max
Carbon	--	0.05
Manganese	--	0.50
Silicon	--	0.30
Phosphorus	--	0.03
Sulfur	--	0.03
Chromium	14.00	15.00
Nickel	6.00	7.00
Titanium	0.55	0.90

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

3.2 Condition:

The product shall be supplied in the following condition:

3.2.1 Bars:

3.2.1.1 Rounds: Hot finished, solution heat treated, maraged, and centerless ground.

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