



AEROSPACE MATERIAL SPECIFICATION

AMS5363™**REV. F**

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Noncurrent	1995-11
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Superseding AMS5363E

Steel Castings, Sand and Centrifugal, Corrosion and Heat Resistant
18.5Cr - 10.5Ni - 0.90 (Cb+Ta)
Solution Heat Treated

UNS J92641

RATIONALE

AMS5363F stabilizes this document because it contains mature technology that is not expected to change and thus no further revisions are anticipated.

STABILIZED NOTICE

AMS5363F 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 July, 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.

NOTE: In many cases, the purchaser may represent a sub tier supplier and not the cognizant engineering organization.

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1. SCOPE:

1.1 Form:

This specification covers a corrosion and heat resistant steel in the form of sand or centrifugal castings.

1.2 Application:

Primarily for parts requiring corrosion and heat resistance up to 800°F (425°C), especially when such parts are welded during fabrication, and for parts requiring oxidation resistance up to 1500°F (815°C) but useful at that temperature only when stresses are low.

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 2350	Standards and Test Methods
AMS 2360	Room Temperature Tensile Properties of Castings
AMS 2635	Radiographic Inspection
AMS 2645	Fluorescent Penetrant Inspection
AMS 2694	Repair Welding of Aerospace Castings
AMS 2804	Identification, Castings

2.2 ASTM Publications:

Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM A262	Detecting Susceptibility to Intergranular Attack in Stainless Steels
ASTM A370	Mechanical Testing of Steel Products
ASTM E353	Chemical Analysis of Stainless, Heat-Resisting, Maraging, and Other Similar Chromium-Nickel-Iron Alloys
ASTM E446	Reference Radiographs for Steel Castings up to 2 in. (51 mm) in Thickness

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 Specifications:

MIL-H-6875 Heat Treatment of Steel, Process for

2.3.2 Military Standards:

MIL-STD-794 Parts and Equipment, Procedures for Packaging and Packing of

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	--	0.10
Manganese	--	2.00
Silicon	--	1.50
Phosphorus	--	0.04
Sulfur	--	0.04
Chromium	17.00	20.00
Nickel	9.00	12.00
Columbium + Tantalum	10xC	1.35
Molybdenum	--	0.75
Copper	--	0.75

3.2 Condition:

Solution heat treated free from continuous carbide network.

3.3 Casting:

A melt shall be the metal poured from a single furnace charge of 15,000 lb (6800 kg) or less. A lot shall be all castings of the same part number poured from a single melt in not more than eight consecutive hours and solution heat treated together as a batch.