



AEROSPACE MATERIAL SPECIFICATION

AMS5351™**REV. G**

Issued	1948-09
Revised	1987-04
Noncurrent	1995-01
Reaf. Nonc.	2012-04
Stabilized	2017-04

Superseding AMS5351F

Steel Castings, Sand, Corrosion and Moderate Heat Resistant
13Cr
Normalized and Tempered

UNS J91150

RATIONALE

AMS5351G stabilizes this document because it contains mature technology that is not expected to change and thus no further revisions are anticipated.

STABILIZED NOTICE

AMS5351G 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 April, 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 moderate heat resistant steel in the form of sand castings.

1.2 Application:

Primarily for parts, such as compressor housings, requiring oxidation resistance up to 1000°F (540°C) but useful at the higher temperatures 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 Materials 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 2635	Radiographic Inspection
AMS 2640	Magnetic Particle 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 E10	Brinell Hardness of Metallic Materials
ASTM E18	Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials
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 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 spectrographic or other analytical methods approved by purchaser:

	min	max
Carbon	--	0.15
Manganese	--	1.00
Silicon	--	1.50
Phosphorus	--	0.04
Sulfur	--	0.03
Chromium	11.50	- 14.00
Nickel	--	1.00
Molybdenum	--	0.50
Aluminum	--	0.05
Copper	--	0.50
Tin	--	0.05

3.2 Condition:

Normalized and tempered.

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 normalized and tempered together as a batch.

3.4 Test Specimens:

Chemical analysis specimens shall be of any convenient size, shape, and form for vendor's tests. When chemical analysis specimens are required by purchaser, specimens shall be cast to a size, shape, and form agreed upon by purchaser and vendor.