



# AEROSPACE MATERIAL SPECIFICATION

AMS5518™

REV. N

Issued 1941-11

Revised 2020-02

Superseding AMS5518M

Steel, Corrosion Resistant, Sheet and Strip  
 18Cr - 8Ni  
 Cold Rolled, 150 ksi (1034 MPa) Tensile Strength  
 (Composition similar to UNS S30100)

## RATIONALE

AMS5518N prohibits unauthorized exceptions (3.6), revises composition (3.1) to replace obsolete chemical analysis standards, reports (4.4.1), and identification (5.1.1), and results from a Five-Year Review and update of this specification.

### 1. SCOPE

#### 1.1 Form

This specification covers a corrosion-resistant steel in the form of sheet and strip.

1.1.1 This specification covers products 0.005 inch (0.13 mm) and over in nominal thickness (see 8.7).

#### 1.2 Application

These products have been used typically for parts requiring strength and moderate forming or bending, but usage is not limited to such applications.

1.2.1 Mechanical properties specified herein are obtained by cold working (strain hardening) and not by heat treatment. Therefore, the cold-worked product should not be heated to a temperature which adversely affects the mechanical properties or corrosion resistance before, during, or after fabrication.

### 2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2020 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)  
 Tel: +1 724-776-4970 (outside USA)  
 Fax: 724-776-0790  
 Email: CustomerService@sae.org  
 http://www.sae.org

SAE WEB ADDRESS:

**SAE values your input. To provide feedback  
 on this Technical Report, please visit  
<http://standards.sae.org/AMS5518N>**

## 2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

- AMS2242 Tolerances, Corrosion and Heat-Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Sheet, Strip, and Plate
- AMS2248 Chemical Check Analysis Limits, Corrosion and Heat-Resistant Steels and Alloys, Maraging and Other Highly-Alloyed Steels, and Iron Alloys
- AMS2371 Quality Assurance Sampling and Testing, Corrosion and Heat-Resistant Steels and Alloys, Wrought Products and Forging Stock
- AMS2807 Identification, Carbon and Low-Alloy Steels, Corrosion and Heat-Resistant Steels and Alloys, Sheet, Strip, Plate, and Aircraft Tubing
- ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

## 2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, [www.astm.org](http://www.astm.org).

- ASTM A370 Mechanical Testing of Steel Products
- ASTM A751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products
- ASTM E140 Hardness Conversion Tables for Metals Relationship Among Brinell Hardness, Vickers Hardness, Rockwell Hardness, Superficial Hardness, Knoop Hardness, Scleroscope Hardness, and Leeb Hardness
- ASTM E290 Bend Testing of Material for Ductility
- ASTM E384 Microindentation Hardness of Materials

## 3. TECHNICAL REQUIREMENTS

### 3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined in accordance with ASTM A751, or by other analytical methods acceptable to purchaser.

**Table 1 - Composition**

Element	Min	Max
Carbon	--	0.15
Manganese	--	2.00
Silicon	--	1.00
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	16.00	18.00
Nickel	6.00	8.00
Molybdenum	--	0.75
Copper	--	0.75