



AEROSPACE MATERIAL SPECIFICATION

AMS5600™**REV. G**

Issued 1968-11
Reaffirmed 2012-10
Revised 2024-09

Superseding AMS5600F

Steel, Corrosion-Resistant, Sheet
Laminated, Edge Bonded
(Composition similar to UNS S30200)

RATIONALE

AMS5600F is the result of a Five-Year Review and update of the specification. The revision updates the composition reporting requirements (see 3.1.1) and the exceptions requirements (see 8.4).

1. SCOPE

1.1 Form

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

1.2 Application

This sheet has been used primarily for shims of special shapes in which the thickness is adjusted by removal of laminations as required, but usage is not limited to such applications.

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.

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.

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
AS7766	Terms Used in Aerospace Metals Specifications

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For more information on this standard, visit
<https://www.sae.org/standards/content/AMS5600G/>

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.

ASTM A751 Chemical Analysis of Steel Products

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

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 the purchaser.

Table 1 - Composition

Element	Min	Max
Carbon	--	0.15
Manganese	--	2.00
Silicon	--	1.00
Phosphorus	--	0.040
Sulfur	--	0.030
Chromium	17.00	19.00
Nickel	8.00	10.00
Molybdenum	--	0.75
Copper	--	0.75

3.1.1 The producer may test for any element not listed in Table 1 and include this analysis in the report of 4.4. Reporting of any element not listed in the composition table is not a basis for rejection unless limits of acceptability are specified by the purchaser.

3.1.2 Check Analysis

Composition variations shall meet the requirements of AMS2248.

3.1.3 Adhesive

Adhesive shall be of a composition meeting the fabrication (see 3.2) and quality (see 3.3) requirements.

3.2 Fabrication

Shim stock shall be fabricated from corrosion-resistant steel laminations in a temper suitable for shearing. Stock shall consist completely of laminations 0.002 inch $\pm$ 0.0002 inch (0.05 mm $\pm$ 0.005 mm) thick or 0.003 inch $\pm$ 0.0003 inch (0.08 mm $\pm$ 0.008 mm) thick, or partly of such laminations in combination with a single thicker lamination, as ordered, precut to the desired shape, stacked to the desired thickness, and bonded on the outside edge with adhesive.

3.2.1 Laminations shall be bonded together in such a manner that normal handling shall not cause separation of the laminated shim stock. The layers shall readily peel to provide the required thickness of laminations.

3.3 Quality

The product, as received by the purchaser, shall be uniform in quality and condition, sound, and free from foreign materials and from imperfections detrimental to usage of the product.

3.4 Tolerances

Tolerances shall be as specified in Table 2.

Table 2A - Tolerances, inch/pound units

Nominal Total Thickness Inch	Tolerance Inch Plus	Tolerance Inch Minus
Up to 0.010, incl	0.0005	0.0005
Over 0.010 to 0.021, incl	0.001	0.001
Over 0.021 to 0.047, incl	0.002	0.001
Over 0.047 to 0.078, incl	0.003	0.001
Over 0.078	0.005	0.002

Table 2B - Tolerances, SI units

Nominal Total Thickness Millimeters	Tolerance Millimeters Plus	Tolerance Millimeters Minus
Up to 0.25, incl	0.013	0.013
Over 0.25 to 0.53, incl	0.025	0.025
Over 0.53 to 1.19, incl	0.05	0.025
Over 1.19 to 1.98, incl	0.08	0.025
Over 1.98	0.13	0.05

3.5 Exceptions

Any exceptions shall be authorized by the purchaser and reported as in 4.4.1.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The producer of the product shall supply all samples for the producer's tests and shall be responsible for the performance of all required tests. The purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the product conforms to specified requirements.

4.2 Classification of Tests

All technical requirements are acceptance tests and shall be performed to represent each lot.

4.3 Sampling and Testing

Sampling and testing shall be in accordance with AMS2371; a lot shall be all laminated shim stock of the same thickness and shape from one heat of steel processed at the same time and presented for the producer's inspection at one time.

4.4 Reports

The producer of the product shall furnish with each shipment a report stating the producer's name, country where the metal was melted (e.g., final melt in the case of metal processed by multiple melting operations), the results of tests for composition of each heat, and stating that the product conforms to the other technical requirements. This report shall include the purchase order number, heat and lot numbers, AMS5600G, shim stock thickness, lamination thickness, size, and quantity.

4.4.1 When material produced to this specification has exceptions authorized by the purchaser taken to the technical requirements listed in Section 3 (see 5.1.3), the report shall contain a statement "This material is certified as AMS5600G(EXC) because of the following exceptions:" and the specific exceptions shall be listed.

4.5 Resampling and Retesting

Resampling and retesting shall be in accordance with AMS2371.

5. PREPARATION FOR DELIVERY

5.1 Identification

5.1.1 Laminated shim stock shall be marked with not less than the nominal thickness, thickness of each lamination, percentage of total thickness that is laminated, and AMS5600G.

5.1.2 Packages of shim stock or parts shall be marked with not less than AMS5600G, part number, purchase order number, and quantity.

5.1.3 When technical exceptions are taken (see 4.4.1), the packages shall be marked with AMS5600G(EXC).

5.2 Packaging

5.2.1 The product shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the product to ensure carrier acceptance and safe delivery.

6. ACKNOWLEDGMENT

A producer shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS

Sheet not conforming to this specification, or to modifications authorized by the purchaser, will be subject to rejection.

8. NOTES

8.1 Revision Indicator

A change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, nor in documents that contain editorial changes only.

8.2 Dimensions and properties in inch/pound units and the Fahrenheit temperatures are primary; dimensions and properties in SI units and the Celsius temperatures are shown as the approximate equivalents of the primary units and are presented only for information.

8.3 Unless otherwise specified, the material producer shall work to the revision of this specification (AMS5600) in effect on the date of order placement. Unless otherwise specified, material manufactured and certified to the immediately previous revision of this specification (AMS5600) may be procured and used until inventory is depleted.

8.4 It is the purchaser's obligation to ensure that product they procure or resell as AMS5600G has any exceptions approved by their subsequent purchaser.