



AEROSPACE MATERIAL SPECIFICATION

AMS4949™**REV. C**

Issued 2003-07
Reaffirmed 2008-11
Revised 2022-07

Superseding AMS4949B

Titanium, Sheet, Laminated, Surface Bonded

RATIONALE

AMS4949C results from a Five-Year Review and update of this specification with changes to revise applicable documents (Section 2, 8.4), fabrication (3.2), and periodic tests (4.2.2).

1. SCOPE

1.1 Form

This specification covers titanium in the form of laminated sheet.

1.2 Application

This material has been used typically for shims in which thickness is adjusted by removal of laminations as required, but usage is not limited to such applications.

1.3 Classification

Materials are classified as follows:

1.3.1 Type

Type I - All laminations

Type II - One half laminations

Type III - Three quarters laminations

1.3.2 Class

Class 1 - 0.002 inch (0.05 mm) thick laminations

Class 2 - 0.003 inch (0.075 mm) thick laminations

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Documents

Document Sharing Hub

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.

AMS4901 Titanium Sheet, Strip, and Plate Commercially Pure, Annealed, 70.0 ksi (485 MPa)

AMS4907 Titanium Alloy, Sheet, Strip, and Plate, 6.0Al - 4.0V, Extra Low Interstitial Annealed

AMS4911 Titanium Alloy, Sheet, Strip, and Plate, 6Al - 4V, Annealed

AS7766 Terms Used in Aerospace Metals Specifications

2.2 ASQ Publications

Available from American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203, Tel: 800-248-1946 (United States or Canada), 001-800-514-1564 (Mexico), or +1-414-272-8575 (all other locations), www.asq.org.

ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes

3. TECHNICAL REQUIREMENTS

3.1 Composition

3.1.1 Laminations

Shall conform to AMS4901 or harder condition.

3.1.2 Solid Stock

When required, shall conform to AMS4907 or AMS4911.

3.1.3 Adhesive

Shall be of a composition which will meet the fabrication and quality requirements of this specification.

3.2 Fabrication

The laminated shim stock shall consist either completely of laminations each 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 combined with a single piece of solid stock, as ordered, bonded together by an adhesive such that individual laminations may be peeled for adjustment of shim thickness. The thickness of each layer of adhesive shall not exceed 0.0003 inch (0.008 mm).

3.2.1 Sheet shall be of the thicknesses and combinations of laminations and solid base shown in Table 1. The existence of the applicable type, class, and nominal thickness shown in Table 1 is not intended to imply that all products described are commercially available.