



AEROSPACE MATERIAL SPECIFICATION

AMS7849™**REV. E**

Issued 1960-06
Revised 2015-01
Reaffirmed 2018-11

Superseding AMS7849D

Tantalum Sheet, Strip, and Plate
Annealed
(Composition similar to UNS R05210)

RATIONALE

AMS7849E is a Five Year Review and update of this specification.

1. SCOPE

1.1 Form

This specification covers tantalum in the form of sheet, strip, plate, and foil up through 0.1875 inch (4.75 mm), inclusive.

1.2 Application

Primarily for parts requiring exposure to ultra-high temperatures. Applications in oxidizing atmospheres necessitate a protective coating.

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 724-776-4970 (outside USA, www.sae.org).

AMS2242	Tolerances, Corrosion and Heat-Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Sheet, Strip, and Plate
AMS2350	Standards and Test Methods
AMS2809	Identification, Titanium and Titanium Alloy Wrought Products

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Document Sharing Hub

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 E8 / E8M	Tension Testing of Metallic Materials
ASTM E112	Determining Average Grain Size
ASTM E290	Bend Testing for Ductility of Materials
ASTM E384	Knoop and Vickers Hardness of Materials

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall conform to the following percentages by weight shown in Table 1, determined by analytical methods approved by purchaser (See 8.2):

3.1.1 Tantalum

Shall be not less than 99.85%.

3.1.2 Other Elements

Shall be not more than 0.15% (1500 ppm) total. Individual elements shall not exceed the following limits in parts per million (ppm):

Table 1 - Composition

Element	Nominal Thickness Up to 0.010 Inch (0.25 mm), excl	Nominal Thickness 0.010 Inch (0.25 mm) and Over
Columbium	1000	1000
Tungsten	300	300
Oxygen	150	100
Iron	100	100
Zirconium	100	100
Molybdenum	100	100
Carbon	75	50
Nitrogen	75	50
Titanium	50	50
Silicon	50	50
Nickel	50	50
Cobalt	20	20
Hydrogen	10	10

3.2 Condition

Cold rolled and annealed (See 8.3).