

# AEROSPACE MATERIAL SPECIFICATION



**AMS 7898D**

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Tungsten Sheet, Strip, Plate, and Foil  
Pressed, Sintered, and Wrought

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## 1. SCOPE:

### 1.1 Form:

This specification covers tungsten in the form of pressed, sintered, and wrought sheet, strip, plate, and foil.

### 1.2 Application:

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

## 2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material 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 2242 Tolerances, Corrosion and Heat Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Sheet, Strip, and Plate
- MAM 2242 Tolerances, Metric, Corrosion and Heat Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Sheet, Strip, and Plate
- AMS 2350 Standards and Test Methods
- AMS 2630 Ultrasonic Inspection, Product Over 0.5 in. (12.5 mm) Thick
- AMS 2645 Fluorescent Penetrant Inspection

### 2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103.

- ASTM E21 Elevated Temperature Tension Tests of Metallic Materials
- ASTM E92 Vickers Hardness of Metallic Materials

### 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-163 Steel Mill Products, Preparation for Shipment and Storage

## 2.4 ANSI Publications:

Available from American National Standards Institute, 1430 Broadway, New York, NY 10018.

ANSI B46.1 Surface Texture

## 3. TECHNICAL REQUIREMENTS:

### 3.1 Composition:

Shall conform to the following percentages by weight; carbon shall be determined conductometrically, nitrogen and oxygen by the vacuum fusion or conductometric method, hydrogen by the vacuum extraction method, and metallic elements by spectrographic or other analytical methods approved by purchaser:

|            | min       | max            |
|------------|-----------|----------------|
| Molybdenum | --        | 0.020          |
| Carbon     | --        | 0.008          |
| Nickel     | --        | 0.005          |
| Silicon    | --        | 0.005          |
| Iron       | --        | 0.005          |
| Aluminum   | --        | 0.005          |
| Oxygen     | --        | 0.005 (50 ppm) |
| Nitrogen   | --        | 0.002 (20 ppm) |
| Hydrogen   | --        | 0.001 (10 ppm) |
| Tungsten   | remainder |                |

### 3.2 Condition:

Hot-cold rolled, stress-relieved, and descaled having a surface texture not greater than 125 microin. (3.12 m), determined in accordance with ANSI B46.1.

3.2.1 Edges shall be sheared, machined, or ground straight, with the corners square.

### 3.3 Properties:

The product shall conform to the following requirements:

3.3.1 Hardness: Shall be not lower than 400 HV30, or equivalent, for any determination and not lower than 440 HV30, or equivalent, for the average of all determinations, determined in accordance with ASTM E92.