

# AMS 4981 - Titanium 6246

## *Typical Applications*

Compressor Discs And Fan Blades

Airframe Components

Motor Racing Drivetrain Components

Subsea Sour Service



*The main characteristics of 6246 are being light weight with exceptional strength and corrosion resistance. This high-performance alloy contains 6% aluminum and 4% zirconium along with titanium and trace elements.*

The addition of aluminum and zirconium gives 6246 titanium increased strength compared to commercially pure titanium grades. It has an ultimate tensile strength around 1100 MPa, nearly double that of the Ti-6Al-4V alloy. Yet 6246 remains relatively light, with a density of 4.54 g/cm<sup>3</sup>.

Components made from 6246 can withstand tremendous mechanical stresses while remaining incredibly light.

6246 titanium offers great resistance to corrosion, the aluminum and vanadium stabilise the alloy against oxidation and prevent degradation.

Like other titanium alloys, 6246 is incredibly durable with a long service life. Products made from this alloy can withstand heavy wear and tear over years of use with minimal maintenance required. The material does not suffer from fatigue, galling, or seizing issues.

From a manufacturing perspective, 6246 titanium can be readily formed using standard metalworking techniques like machining, welding, and forming. However, the material is considered more difficult to process compared to other titanium grades due to its higher strength.

Whether used to construct aircraft components, high-performance automotive parts, or professional-grade sports gear, 6246 titanium delivers an unbeatable combination of strength, light weight, and corrosion resistance.

## **Related Products**

**6246**

**6Al4V Bar**

**6Al4V Sheet**

**Grade 1 Sheet Plate**

**Grade 2 Bar**

**Grade 2 Sheet Plate**

**Grade 2 Tube Welded**

**Grade 3 Sheet Plate**

**Grade 4 Bar**

**Grade 4 Sheet Plate**

**Grade 9 Tube**



### **Key Features and Benefits**

Superior strength at high temperatures up to 538°C (1000°F)

Excellent corrosion resistance

Outstanding strength-to-weight ratio

Exceptional durability

Long service life

## **Technical specification**

*Related Specifications*

AMS 4981

AMS-T-9047

UNS R56260

NACE MR01-75

*Chemical Composition (WT %)*

	Min	Max
<b>Al</b>	5.5	6.5
<b>Sn</b>	1.75	2.25
<b>Zr</b>	3.5	4.5
<b>Mo</b>	5.5	6.5
<b>Fe</b>	-	0.15
<b>N</b>	1	0.04
<b>O</b>	-	0.15
<b>C</b>	-	0.04
<b>H</b>	-	0.0125

*Typical Mechanical Properties*

	Range	Unit
<b>0.2% Proof Stress</b>	1090-1240	MPA
<b>Tensile Strength</b>	1090-1240	MPA

<b>Elongation</b>	13-16	%
<b>Reduction of Area</b>	37-40	%

Note 1: Variations in mechanical properties are dependent on condition / heat treatment

\* Every effort has been made to ensure that our technical specifications are accurate. However, technical specifications included within Dynamic Metals Ltd should be used as a guideline only and are subject to change without notice.

### Applications

This versatile alloy excels in demanding environments, particularly in:

- Aerospace components
- Aircraft structural parts
- High-performance automotive parts
- Marine applications
- Industrial equipment

---

### Performance Characteristics

The alloy undergoes rigorous solution and precipitation heat treatment, delivering:

- High tensile strength
- Excellent yield strength
- Good elongation properties
- Strong resistance to fatigue
- Reliable performance at elevated temperatures

---

### Corrosion Resistance

AMS4981 offers outstanding resistance to corrosion. The alloy's chemical composition creates a protective oxide layer, providing natural defence against environmental factors. This makes it ideal for applications in aggressive environments.

---

### Quality Assurance

Every batch of our AMS4981 products undergoes:

- Comprehensive chemical analysis
- Mechanical property testing
- Microstructure examination
- Surface quality inspection

---

### Available Forms

We supply 6246 in round bar, flat bar and forgings in annealed and Solution Treated & Aged conditions

---

### Industry Standards



40 Eden Way  
Chartwell Business Park  
Leighton Buzzard  
Bedfordshire  
LU7 4FY

T: +44 (0)1525 217 556

## **Conversion Centre**

Suite 2 Meadowhall Riverside  
Meadowhall Road  
Sheffield  
South Yorkshire  
S9 1BW

T: +44 (0)1143 030 320

## **Useful Links**

[Privacy Policy](#)

[Sitemap](#)

