

TITANIUM 6246 - AMS 4981

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/cm³.

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.

Typical Applications		Related Specifications								
Compressor Discs and fan blades		AMS 4981								
Airframe components		AMS-T-9047								
Motor racing drivetrain components		UNS R56260								
Subsea sour service		NACE MR01-75								
Chemical Composition (Wt %)										
		Al	Sn	Zr	Mo	Fe	N	O	C	H
	Min	5.5	1.75	3.5	5.5	–	–	–	–	–
	Max	6.5	2.25	4.5	6.5	0.15	0.04	0.15	0.04	0.0125
Typical Mechanical Properties										

	0.2% Proof Stress	Tensile Strength	Elongation	Reduction of area
	MPA	MPA	%	%
Range:	1020- 1150	1090- 1240	13-16	37-42

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

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General Enquiries

T: +44 (0) 1525 217 556 [\(tel:+4401525217556\)](tel:+4401525217556)

E: sales@dynamicmetalsltd.com [\(mailto:sales@dynamicmetalsltd.com\)](mailto:sales@dynamicmetalsltd.com)



UK Address:

Head Office

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

T: +44 (0)1525 217 556 [\(tel:+441525217556\)](tel:+441525217556)

Conversion Centre

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

T: +44 (0)1143 030 320 [_\(tel:+4401143030320\)](tel:+4401143030320)

Registered Office (only)

The Granary
Crowhill Farm Ravensden Road
Wilden
Bedfordshire
MK44 2QS

T: +44 (0)1525 217 556 [_\(tel:+441525217556\)](tel:+441525217556)



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