Titanium 6AL-4V Data Sheet

Quick Facts

- High strength to weight ratio
- Known as Titanium Grade 5
- Good weldability and machinability
- Fire and shock resistant
- Favourable cryogenic properties
- Bio-compatibility

Titanium is extensively used in the aerospace industry and increasingly used in general engineering applications, especially where high strength/weight ratio and corrosion resistance are major considerations.

Titanium 6Al-4V is a high-strength, alpha-beta alloy which is fully heat treatable and is the most versatile of the titanium alloys.

Typical Applications

Pumps and valves, turbines and airframes, fasteners, automotive components including valves, springs and connecting rods, orthopaedic implants and surgical instruments, oilfield equipment, stress joints, risers and casings.

Stock Range

We stock a comprehensive range of round bar sizes between 8mm and 160mm diameter. We can also supply flat bar, rings, blocks and slabs.

Primarily manufactured in US and China

Industry Specifications

- AMS 4928
- UNS R56400

Material may also be supplied to Customer specifications, subject to enquiry

Chemical Analysis

	Al	V	C	Fe	O	N	H	Ti	-
Min	5.50	3.50	-	-	-	-	-	-	%
Max	-	4.50	0.08	0.30	0.20	0.05	0.0125	BAL	%

Mechanical Properties

Typical properties:

Tensile (PSI (MPA))	Yield (0.2% offset), (PSI (MPA) Min)	Elongation in 2" or 4D min%	Reduction of Area Min %	Hardness HRC Typical
130,000 (897)	120,000 (827)	10	25	36

Physical Properties

Typical properties at room temperature:

Density	4.43 g/cc (0.16 lb/in³)
Poissons Ratio	0.33
Shear Modulus	44GPA (6380 ksi)
Modulus of Elasticity	114 GPa (16500 ksi)
Specific Heat	0.5263 Joules/g◦C (0.126 BTU/lb-◦F)
Mean Coefficient of thermal expansion, 20-100◦C (◦K-1)	8.6 µm/m-°C (4.78 µin/in-°F)
Melting point	1604-1660 °C (2920-3020°F)
Thermal Conductivity	6.7 W/m-K (46.5 BTU-in/hr-ft²-°F)
Magnetic Permeability	1.00005

All material we supply has full traceability with inspection certification in accordance with BS EN 10402 3.1. We can supply material with the intent of BS EN 10402 3.2 inspection certification on request.

We have onsite PCN and SNT Level II inspectors who can test material to your requirements.

All information included in this sheet is intended as a guide only and is correct to the best of our knowledge.