Technical datasheet Ti Grade 5 / Ti-6Al-4V / W-Nr.3.7164/65

Ti-6Al-4V is the most widely used titanium alloy due to its outstanding strength-to-weight ratio and corrosion resistance.

Available products

Product form	Size range from	Size range to
Sheet/plate	0.3 mm thickness	155 mm thickness
Bar	1.0 mm diameter	304.8 mm diameter

Chemical composition (%)

Ti	Al	V	Fe	O	C	N	H
Balance	5.50-6.75	3.5-4.5	0.40 max	0.20 max	0.08 max	0.05 max	0.015 max

Major specifications

ASTM B265, B348
AMS 4911, 4928
AMS-T-9046, 9047

UNS R56400

Physical properties

Density	4.43 g/cm^3	Beta transus temperature	980 ± 4 °C
Melting point	1648°C		

Mechanical properties – minimum room temperature properties per AMS 4928

	Dia up to 50.80 mm		Dia 50.8-101.6mm
Yield strength	862 MPa	Yield strength	827 MPa
Tensile strength	931 MPa	Tensile strength	896 MPa
Elongation	10 %	Elongation	10 %

Key attributes

Originally developed for aerospace applications Ti-6Al-4V is still widely used in the aerospace industry but due to its outstanding strength-to-weight ratio combined with excellent corrosion resistance in many media its uses are increasing in other sectors. In the annealed condition it is suitable for service at temperatures up to 400°C.

Ti-6Al-4V is highly fabricable and readily formed. It is machinable and can be welded by conventional processes and procedures. Please contact us for further details on forming, fabrication and welding consumables

Applications

Aero engine inlet cases, compressor blades, discs, hubs and spacers
Air frame components
Offshore oil and gas equipment
Motorsport/automotive components
Medical equipment and devices
Consumer goods

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