

TITANIUM TIAI6V4

Description

Titanium Ti6Al4V is a high-performance material known for its exceptional strength, light weight, and corrosion resistance. Composed mainly of titanium (Ti), aluminum (Al), and vanadium (V), it offers a remarkable combination of properties. Ti6Al4V is lauded for its biocompatibility, making it an ideal choice for medical and dental implants. Its versatility extends to the aerospace and automotive industries, where it is used to manufacture lightweight yet durable components, such as aircraft parts and automotive engine components. In 3D metal printing, Ti6Al4V allows for precise, intricate designs, making it a top choice for applications that demand both strength and precision. This material is a hallmark of high-performance functional parts and is widely utilized in various critical sectors.

Benefits

- Exceptional Strength-to-Weight Ratio
- Corrosion Resistance
- Biocompatibility
- High Temperature Resistance
- Precision and Intricacy
- Custom Engineering

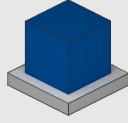
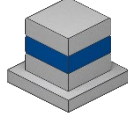
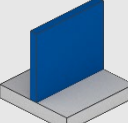
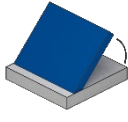
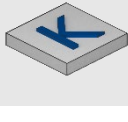
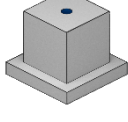
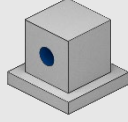

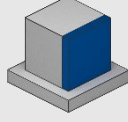
Application

- Aerospace
- Medical
- Automotive
- Military
- Energy
- Industrial Machinery

Data sheet

	Units	Titanium TiAl6V4
		Performance
DIN	-	1.7865
Layer thickness	[μm]	60
Density	g/cm^3	4.4
	%	>99.5
Ultimate tensile Strength	MPa	1125
Yield strength	MPa	1070
Elongation at break	%	10
Youngs Modulus	GPa	119
Hardness		
Rockwell	HRC	35
Vickers	HV	330
Roughness		
As printed	Ra	10
After shot peening	Ra	3-6
After tumbling	Ra	2-4
Postprocessed	Ra	<0.5

Technical specifications

	Description		Performance	Speed
Maximum dimensions	Largest printable size		420 x 420 x 400 mm ³	420 x 420 x 400 mm ³
Min feature size in z-direction	Print layer height		0.03 or 0.05 mm	0.06 mm
Minimum Wall Thickness	Smallest wall thickness available for printing		0.2 mm (smaller possible on request)	0.5 mm
Unsupported Overhang	Minimum angle at which a wall can be printed without requiring support		>45° (smaller possible on request)	>45°
Text embossment/engraving	Size of text; Embossment height or engraving depth		4mm (size) 0,5 mm (depth) Font: Arial Black	4mm (size) 0,5 mm (depth) Font: Arial Black
Holes	Minimum diameter available for printing holes		0.2 mm	0.5 mm
Horizontal holes	Maximum diameter of a horizontal hole without support		9 mm	9 mm
Thread	Available thread size		M2 – M60	M2 – M60
General Tolerances	Expected tolerance (dimensional accuracy)		± 0.2% With a minimum of 0.2 mm (smaller possible on request)	± 0.3% With a minimum of 0.3 mm (smaller possible on request)