

Key Features

- High strength-to-weight ratio
- High melting point
- Non-magnetic
- Good corrosion resistance
- DIFFICULT to machine/weld

Common Applications

- Aerospace application
- High-temperature and biomedical application
- Medical implants

Material Description

Titanium used in 3D printing is typically in the form of titanium alloy powders, such as Ti-6Al-4V (90% titanium, 6% aluminum, 4% vanadium). This material is highly valued for its excellent strength-to-weight ratio, corrosion resistance, and biocompatibility, making it ideal for a wide range of high-performance applications. Titanium's unique properties allow it to withstand extreme environments, including high temperatures and corrosive conditions. In 3D printing, titanium is used in industries such as aerospace, medical, and automotive for creating complex, lightweight, and durable parts, including aerospace components, medical implants, and custom automotive parts. The additive manufacturing process allows for the production of intricate geometries that are not possible with traditional manufacturing methods, enhancing design flexibility and reducing material waste.

Chemical Composition (%)

	Ti									
Min.										
Max.	100									

Mechanical Properties

Flexural Modulus	925 MPa
Tensile Modulus	1,020 MPa
Hardness	Rockwell C38
Elongation at Break	12%

Physical Properties

Density	0.163 lb/in ³ (4.50 g/cm ³)
Modulus of Elasticity	120 GPa
Melting Point	3,000–3,040°F (1,650–1,670 °C)

Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

InstaVoxel™ - On-Demand Manufacturing Expert

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InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



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