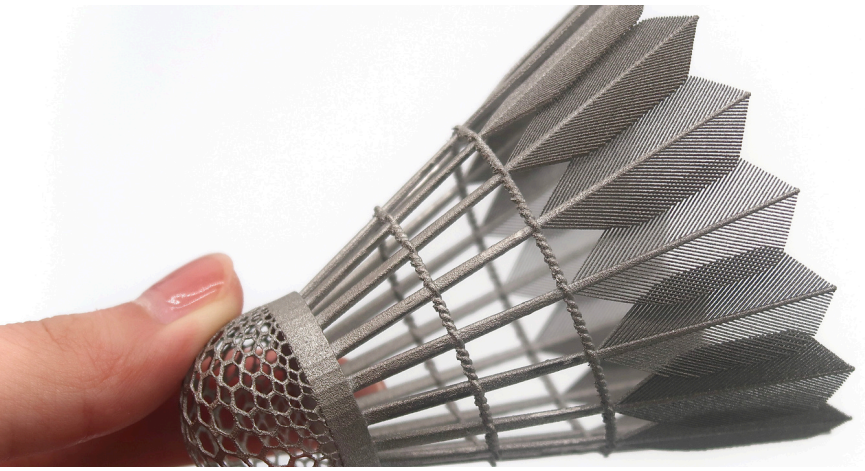
Titanium(TC4)

INDUSTRIAL GRADE MATERIALS FOR SLM 3D PRINTING



MATERIAL NAME
Titanium(TC4)

COLOR
Silvery-gray

PROCESS
SLM

PRODUCT DESCRIPTION

Titanium(TC4) is a versatile material that is widely used for medical applications due to its biocompatible composition. Titanium 3D printing is a good option for medical implants as the parts can be made hollow and can feature complex surface geometries that act as attachment points for bone and tissue growth. In addition to this, its excellent strength-to-weight ratio and corrosion resistance make it a popular material in the aerospace industry.

TYPICAL APPLICATIONS

- Medical applications include custom implants and tools
- Automotive performance and luxury parts
- Consumer goods high-end watches and jewelry
- Aerospace lightweight structural parts
- Industrial corrosion-resistant components

PRODUCT SAFETY

If there are sharp edges on the surface of the parts, be careful not to scratch them. If there are metal powders on the parts, be careful not to inhale them into the lungs and avoid contact with strong acids and alkalis.

PRODUCT DELIVERY & WAREHOUSING

- **STORAGE**
  Store in a dry, ventilated environment, avoiding moisture and exposure to corrosive chemicals.
  Apply protective coatings to prevent oxidation or corrosion of metal surfaces.

- **USAGE AND HANDLING**
  Remove burrs and residual materials from the product. Use protective equipment like gloves when handling.
  Avoid using the product in extreme environments or high-load scenarios; regularly inspect for mechanical performance.

- **CHEMICAL COMPATIBILITY**
  Avoid contact with strong acids, alkalis, or corrosive solvents. Use appropriate cleaning and maintenance solutions.
  Assess risks of oxidation, corrosion, or magnetic effects based on specific application environments.

MATERIAL PROPERTIES

Formed Part Properties	Value
Hardness	30~35 HRC
Yield Strength (Mpa)	≥ 540 Mpa
Tensile strength (Mpa)	≥ 600 Mpa
Elongation at break	≥ 5 Mpa
Heat-Treated Properties	**Value**
Hardness	35~40 HRC
Yield Strength (Mpa)	≥1200 Mpa
Tensile strength (Mpa)	≥1150 Mpa
Elongation at break	≥9%
Elastic Modulus (Gpa)	100~120 GPa
Other Properties	**Value**
Poisson's Ratio	/
Coefficient of themal expension(/°C)	/
Thermal Conductivity	/
Electrical Resistivity	/
Electrical Conductivity	/
Surface Roughness of Formed Parts	RA 6.3~7

Tips: Want to explore a wider range of materials? Check out *https://www.unionfab.com/materials*