Titanium Grade 5 | 3.7165 | Ti6Al4V

Titanium Grade 5 offers high strength for CNC machining of aerospace and medical parts.

Mechanical properties

Ultimate tensile strength	920 - 1000 MPa
Yield strength	830 - 880 MPa
Young's modulus (modulus of elasticity)	113.8 GPa
Elongation at break	9 - 11 %
Hardness	334 HB

Physical properties

Corrosion resistance	Very high
Magnetism	Low

Thermal properties

Maximum service temperature	320 - 400 °C
Thermal expansion coefficent	8.35 - 8.6 10^-6/ºC
Thermal conductivity	16 - 21 W/(m·°C)

Common applications

Aerospace	

Titanium Grade 5 CNC Machining Applications & Parts

Titanium Grade 5 is the most widely used titanium alloy, renowned for its exceptional strength-to-weight ratio, excellent corrosion resistance, and high fatigue strength. This alpha-beta alloy maintains good properties at elevated temperatures up to 400°C (750°F). Our advanced CNC machining capabilities are specifically designed to handle this challenging high-strength alloy.

Typical Parts We Machine from Titanium Grade 5:

- **Aerospace Components:** Aircraft structural parts, engine components, landing gear parts, fasteners
- **Medical Implants:** Orthopedic implants, spinal rods, dental implants, surgical instruments
- **High-Performance Automotive:** Connecting rods, valve springs, racing components
- **Marine & Defense:** Submarine components, naval hardware, armor plating

Our Machining Advantage:

We employ rigid machining setups, specialized titanium-cutting tooling, and high-pressure coolant systems to effectively machine Grade 5 titanium, overcoming its low thermal conductivity and tendency to work-harden to deliver precision components with integrity and reliability.

Get an Instant Quote for your custom Titanium Grade 5 parts today.