

# Titanium

Titanium is extremely strong and boasts a high strength-to-weight ratio. It also has excellent corrosion resistance, high operating temperatures (up to 1,000°F) and is nontoxic. Another key is its low thermal expansion and high melting point that is roughly 3,000° F. Machining titanium will be more costly than other metals such as aluminum.

## Applications

Titanium is commonly used in aircraft, spacecraft, laptops, bicycles, crutches, compressor blades, discs, pressure vessels, joint replacements, tooth implants and other surgical applications.

## Key Product Benefits

- Corrosion Resistance
- Strength
- Heat Resistance
- High Strength-to-Weight Ratio
- Biocompatibility
- End-use Finishing Options

## Properties

Property	Value (Imperial)	Value (Metric)
Ultimate Tensile Strength	138,000 psi	950 MPa
Tensile Strength @ Yield	128,000 psi	880 MPa
Elongation @ Break	14%	14%
Density	0.161 lb/in <sup>3</sup>	4.47 g/cm <sup>3</sup>
Hardness (HRC Annealed)	30-34	30-34
Hardness (HRC Solution and Aged Condition)	35-39	35-39