

## Products & Sizes

Coil	Sheet	Plate	Bar
0.012" - 0.125"	0.012" - 0.125"	0.250" - 4.000"	0.250" - 8.500"

### Ti-6AL-4V Chemical Composition

	Element	Min	Max
Ti	Titanium	-	90.00
Al	Aluminum	-	6.00
V	Vanadium	-	4.00
C	Carbon	< 0.10	-
O	Oxygen	< 0.20	-
N	Nitrogen	< 0.05	-
H	Hydrogen	< 0.0125	-
Fe	Iron	< 0.3	-

### Industry Standards

- ASM/MIL-81299
- PWA LCS
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- Line marked >.500 inch diameter
- Predominantly produced by double vacuum melt, hot rolled, annealed, then centerless ground or rough turned.
- DFARS Compliant

### Industry Applications

- Aerospace
- Base plates
- Fasteners
- Chemical processing
- Medical implants

## Physical Properties

Ti-6AL-4V is a non-magnetic, two-phase alloy, containing both alpha and beta phase crystalline structures. This high strength grade can be used at cryogenic temperatures to about 800°F (427°C). Ti-6al-4v bar to AMS 4928 requires 120,000 psi minimum yield strength at room temperature. Grade 5 Titanium can be used in the annealed condition or in the solution treated and aged condition. Ti 6al-4v Grade 5 Titanium bar stock has outstanding corrosion resistance to most media including nitric acid in all concentrations to boiling point, in seawater, and to alkalis in all concentrations to boiling point. Stress corrosion cracking may occur if chlorine salts are present on stressed parts subsequently subjected to high temperatures. Ti 6al-4v Grade 5 Titanium has acceptable oxidation resistance up to 1000°F (538°C).

Property	Value
Density	0.16 lb/in <sup>3</sup>
Specific Heat	0.135 (Btu/lb/ °F (32-212))
Electrical Resistivity	171 (Microhm-cm at 68°F)
Melting Point	3200°F
Thermal Conductivity	3.9
Modulus of Elasticity Tension	16.5
Beta Transus	1830 (°F +/- 25)

## Mechanical Properties

Hardness of stock is typically 300 BHN. The strength and hardness of the mill-annealed product may be increased by approximately 20% after an aging heat treatment. After aging at 975 to 1025°F (524-552°C), Grade 5 Titanium bar yield strength is 150,000 psi and typical hardness is 360 BHN.

Property	Value
Hardness Brinell	334
Hardness Rockwell C	36
Ultimate Tensile Strength	131000 psi
Yield Strength	120000 psi
Machinability Rating	22% of B 112
Typical stock removal rate	30 surface ft/minute