

Grade 5 Titanium



Grade 5 is the most commonly used Titanium in engineering. Opposed to pure (Grade 2) Titanium, Grade 5 is alloyed with 6% Aluminium and 4% Vanadium to increase it's strength and resistance to creep.

Grade 5 Titanium is also commonly referred to as Ti 6Al 4V.

Chemical Content	% by weight
Titanium (Ti)	Balance
Aluminium (Al)	5.5 - 6.75
Vanadium (V)	3.5 - 4.5
Oxygen (O)	< 0.2
Nitrogen (N)	< 0.05
Carbon (C)	< 0.08
Hydrogen (H)	< 0.015
Iron (Fe)	< 0.3
Yttrium (Y)	< 0.005

Physical Properties

Density (kg/m ³)	4,450
Thermal Conductivity (W/m·K)	7.1
Electrical resistivity (μΩ/m)	1.71
Melting Point (°C)	1650
Max Operating Temperature (°C)	480
Tensile Strength (Mpa)	900 - 1070
Yield Strength (Mpa)	830 - 1000
Elongation at Break	~10%
Hardness (HV)	Approx 330 HV

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