

Commercially Pure or C.P. Titanium in unalloyed. Grade 3 is a general purpose grade of commercially pure titanium that has excellent corrosion resistance in highly oxidizing to mildly reducing environments, including chlorides, and an excellent strength to weight ratio.

Specifications

ASTM: B265, B348, F67
AMS: 4900
AMS-T: 9046A, 9047A
MIL-T: 9046J, 9047G

Chemical Composition, %

	N	C	O	Fe	H	Ti	Res. Each	Res. Total
MIN	—	—	—	—	—	—	—	—
MAX	0.05	0.08	0.35	0.30	0.015	Remainder	0.1	0.4

Features

- Highest ASME allowable design stresses of any commercially pure grade of titanium
- Good impact properties at low temperatures
- Can be welded, machined, cold worked, hot worked, and cast

Applications

- Aerospace structures
- Chemical processing
- Medical industry
- Marine industry

Mechanical Properties

UTS Ksi (MPa)	.02% YS Ksi (MPa)	%El	%RA
85 (595)	65 (450)	25	48

Physical Properties

Physical Property	T (°F)	T (°C)	Value	Value (SI)
Density			0.163 lb/in ³	4.512 g/cm ³
Beta Transus	1690			
Thermal Conductivity			151.2 Btu-in/hr-ft ² -°F	
Electrical Resistivity			21 μΩ·in	.53 μΩ·m
Magnetic Permeability			Nonmagnetic	
Mean Coefficient of Thermal Expansion	68-212	20-100	4.8x10 ⁻⁶ in in ⁻¹ °F ⁻¹	8.6x10 ⁻⁶ m m ⁻¹ °C ⁻¹
	68-572	20-300	5.3x10 ⁻⁶ in in ⁻¹ °F ⁻¹	9.5x10 ⁻⁶ m m ⁻¹ °C ⁻¹
	68-932	20-500	5.4x10 ⁻⁶ in in ⁻¹ °F ⁻¹	9.7x10 ⁻⁶ m m ⁻¹ °C ⁻¹
Elastic Modulus			15.2-17.4 Msi	