

TECHNICAL DATA SHEET

Nonferrous alloy type TA

General notes:

- » **Titanium Grade 1** (unalloyed titanium)
- » engineering materials with extraordinary combination of properties: relatively low density (4.5 g/cm³), good mechanical properties and a very high melting point that allows the use at high temperatures (1600 °F, 870°C)
- » good corrosion resistance at room temperature to air, marine and a variety of industrial environments
- » good cold formability, high ductility
- » fully non-magnetic (100%)
- » generally it is used when in addition to the corrosion resistance, high strength-to-weight ratio is required
- » bio-compatible (maintain cell integrity, no inflammatory response)
- » typical applications include handling of components in cleaning/chemical processes also at high temperature, histology, biology, medicine, surgery

Composition

Component	Wt.%	Component	Wt.%	Component	Wt.%
Ti	99.5	C	≤0.1	Fe	≤0.2
O	≤0.18	N	≤0.03	H	≤0.015

Mechanical properties

State	annealed
Density	4.51 g/cm³
Hardness, Vickers	190 HV
Tensile strength, ultimate	330 MPa
Tensile strength, yield	240 MPa
Elongation, break	30%
Modulus of elasticity	100 GPa

Thermal properties

Coef. of lin. therm expansion	9.2 E-6/°C	0°C-315°C
Specific heat capacity	0.52 J/(g K)	
Continuous use temperature	350°C	
Thermal conductivity	16 W/(m K)	

Electrical properties

Resistivity	0.45 E-4 Ohm.cm
-------------	------------------------