



Material description

3T TiCP is a commercially pure titanium grade as specified on ASTM B348. This well-known light metal is characterised by ductility and corrosion resistance combined with low specific weight and biocompatibility. This material is ideal for many high-performance engineering applications, for example in aerospace, the chemical industry, offshore applications and production of biomedical implants.

Physical properties¹

Density (based on 4.41 g/cm ³ theoretical density)	> 99.9%
Pore size	< 100 µm
Porosity rate	< 0.1%
Hardness	min. 140 HV

Mechanical properties

	Stress Relieved ²
Tensile strength Horizontal (XY) Vertical (Z)	450 MPa ± 50 MPa 450 MPa ± 50 MPa
Proof strength (Rp 0.2%) Horizontal (XY) Vertical (Z)	350 MPa ± 50 MPa 350 MPa ± 50 MPa
Modulus of elasticity Horizontal (XY) Vertical (Z)	100 ± 10 GPa 100 ± 10 GPa
Elongation at break Horizontal (XY) Vertical (Z)	20 ± 5% 20 ± 5%

¹ All data gathered using ASTM E8M flat un-machined specimens that were wire EDM to profile with cross section of 2mmx6mm at the gauge section.

² Stress relief at 700°C for 2 hours in a vacuum furnace with specimens on build plate. Please contact us for bespoke heat treatment to achieve different mechanical properties.

Chemical properties

Material composition wt%	Ti	Balance	N	0.03 max	H	0.015 max
	O	0.25 max	C	0.08 max	Fe	0.3 max

Material Properties	Applications	Finishes	Industries
<ul style="list-style-type: none"> • Corrosion Resistant • Lightweight • Biocompatible • Weldable 	<ul style="list-style-type: none"> • Prototyping • Biomedical Implants • Offshore applications 	<ul style="list-style-type: none"> • Machined • Spark-eroded • Welded • Micro shot-peened • Polished • Coated 	<ul style="list-style-type: none"> • Automotive • Aerospace • Medical