



Titanium Ti64

DIRECT METAL LASER MELTING MATERIAL SPECIFICATIONS

Highlights

- Light alloy characterized by having excellent mechanical properties and corrosion resistance combined with low specific weight and biocompatibility.

Applications

- Ideal for high-performance engineering applications such as aerospace and motor racing and for the production of biomedical implants.

TYPICAL PHYSICAL PROPERTIES

MECHANICAL PROPERTIES	DMLM (AS BUILT)
Ultimate tensile strength	1150 ± 60 MPa (166 ± 9 ksi)
Yield strength (Rp 0.2 %)	1030 ± 70 MPa (150 ± 10 ksi)
Elongation at break	11 % ± 2 %
Young's Modulus	110 ± 7 GPa (16 ± 1 msi)
Hardness	Approx. 400 - 430 HV (41 - 44 HRC)
Maximum long-term operating temperature	350 °C (660 °F)
Relative density with standard parameters	Approx. 100 %
Density with standard parameters	4.43 g/cm ³ (0.160 lb/in ³)

TITANIUM TI64 COMPOSITION

ELEMENT	TYPICAL PERCENTAGE
Aluminium (A)	(5.5 – 6.5 %)
Vanadium (V)	(3.5 – 4.5 %)
Oxygen (O)	< 2000 ppm
Nitrogen (N)	< 500 ppm
Carbon (C)	< 800 ppm
Hydrogen (H)	< 120 ppm
Iron (Fe)	< 2500 ppm

The information presented represents typical values intended for reference and comparison purposes only. It should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, color etc. Actual values will vary with build conditions. Product specifications are subject to change without notice. *Chemical analysis for specific lots available upon request.

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