



# Titanium Ti64

**Description:** Titanium Ti64 is a pre-alloyed TiAlV4 alloy in fine powder form. This well-known light alloy has excellent mechanical properties and corrosion resistance combined with low specific weight and biocompatibility. This material is ideal for many high-performance engineering applications, for example in aerospace and motor racing, and also for the production of biomedical implants.

**Applications:**

- Direct manufacture of functional prototypes, small series products, individualized products or spare parts
- Parts requiring a combination of high mechanical properties and low specific weight, e.g., structural and engine components for aerospace and motor racing applications, etc.
- Biomedical implants

Aluminum (Al) = 5.50 – 6.75%	Nitrogen (N) = max 0.05%	Iron (Fe) = max 0.30%
Vanadium (V) = 3.50 – 4.50%	Carbon (C) = max 0.08%	Other elements = max 0.40%
Oxygen (O) = max 0.20%	Hydrogen (H) = max 0.015%	Titanium (Ti) = Balance

**Stress Relief:** Stress relieve at 1200°F +/- 25°F for 3 hours +/- 15 minutes in a vacuum

**Heat Treatment (HT):** Vacuum solution treat at 1725°F +/- 25°F for 45 minutes the 6 bar argon quench

**Hot Isostatic Pressing (HIP):** OPTIONAL

3DMT MATERIAL DATA					
	ASTM F2924 Additive Mfg	ASTM F1472 - Wrought for Surgical Implants	Typical Wrought	MLS (Stress Relief)	MLS (HIP and HT)
<b>0.02% Yield (ksi)</b>	119.6 min	120 – 126 min	160	<b>152.6</b>	<b>125.9</b>
<b>Ultimate Tensile (ksi)</b>	129.8 min	130 – 135 min	170	<b>164.1</b>	<b>140.9</b>
<b>Elongation (%)</b>	6 – 10 min	6 – 10 min	15	<b>11.5</b>	<b>10.9</b>
<b>Hardness (HRC)</b>				<b>36.9</b>	<b>31.8</b>

The data above is general information that may vary from machine to machine and supplier to supplier.