

Medical/Dental Grade 4

Smiths Advanced Metals

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Biocompatible Titanium Alloy

Dental Grade 4 Titanium is a high-purity commercially pure titanium alloy specifically developed for use in demanding medical environments.

Engineered to meet strict biocompatibility requirements, this material is widely trusted for the manufacture of dental implant components, orthopaedic devices, and precision surgical applications.

Its combination of strength, corrosion resistance, and excellent tissue compatibility makes it an ideal choice for long-term implantation within the human body. The alloy performs exceptionally well in environments where reliability, durability, and biological safety are critical.

Excellent Machinability

Dental Grade 4 Titanium offers reliable and consistent machining characteristics, making it an excellent choice for the production of high-precision medical and dental components. The material performs particularly well in advanced CNC machining environments, where accuracy, repeatability, and surface finish quality are essential.

Benefits

- Biocompatible chemical analysis
- Excellent corrosion resistance
- High strength-to-weight ratio
- Tight diameter tolerances (h6 and h7)



Grades/Specifications

- ASTM F67 Grade 4
- ISO 5832-2
- UNS R50700
- 3.7065

Applications

- Dental implant fixtures and abutments
- Orthopaedic implant components
- Surgical fixation devices
- Precision-machined medical parts

*Chemical Composition (weight, %)

	Ti	Fe	O	C	N	H	Co
Min	Bal						
Max		0.50	0.40	0.08	0.05	0.0125	<0.10

*As per ASTM F67

Mechanical Requirements

	Annealed	Cold Worked
Tensile Strength min MPa	550	680
0.2% Proof Strength min MPa	483	520
Elongation min 4D %	15	10
R of A min %	25	-

Stock Availability

We stock Medical and Dental Grade 4 Titanium bar in a comprehensive range of diameters from 4mm up to 20mm. Material is supplied in 3 metre straight bar lengths, making it particularly suitable for high-volume production using sliding head milling and turning machines.

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