



# TECHNICAL DATASHEET

## Ti-6Al-7Nb FT 009 – Version 0

The Ti-6Al-7Nb Aluminium – Niobium alpha-beta alloy. Its biocompatibility and mechanical properties are superior to those of the Ti-6Al-4V. This alloy was conceived and developed in 1977 by a team of researchers at Gebruder Sulzer in Winterthur, Switzerland. Their aim was to create a titanium alloy that would meet the demands of the medical and surgical sectors.

APPLICATIONS	ADVANTAGES
Medical	Biocompatibility Fatigue resistance Corrosion resistance
STANDARDS	SHAPES
ASTM F1295 ISO 5832-11 UNS R56700	<b>BAR</b>  Diameter 1-45 mm  Length 2800-3500 mm  Tolerance $\varnothing \leq 18$ mm: h7-h9 – $\varnothing > 18$ mm: h8-h11

### ➤ CHEMICAL COMPOSITION

%	O	Fe	C	H	N	Ta	Al	Nb	Ti
min							5.5	6.5	residue
max	0.20	0.25	0.08	0.009	0.05	0.50	6.5	7.5	



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### ➤ MECHANICAL PROPERTIES

Bar

Condition	Rm Tensile strength (min MPa)	Rp0.2 Yield strength (min MPa)	Elongation (% min)	Necking (% min)
Annealed	900	500	10	25

Sheet and plate

Dimension thickness (x)	Rm Tensile strength (min MPa)	Rp0.2 Yield strength (min MPa)	4D elongation (% min)	Bend test Mandrel diameter
Up to 1.78 mm	900	800	10	9 T*
1.78-7.46 mm	900	800	10	10 T*

\* T = thickness

### ➤ PHYSICAL PROPERTIES

Density (g/cm <sup>3</sup> )	4.52
Hardness (HRc)	30-34
Modulus of elasticity at 20 °C (N/mm <sup>2</sup> )	105 x10 <sup>3</sup>
Thermal conductivity at 20 °C (W/m °C)	-
Mean coefficient of thermal expansion at 20-200 °C (mm °C)	-
Beta transus (°C)	1015
Fusion temperature (°C)	1650

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