

Due to good bio-compatible and low elastic modulus, Ti6Al7Nb are broadly used in bio-medical fields. Ti6Al4V alloy currently having most applications is queried because of containing poisonous V element for body cell, so Ti6Al7Nb alloy is best replacement through using nontoxic Nb element instead of V element. WST supply Ti6Al7Nb bars according to ISO 5832-11 and ASTM F1295 standards, mainly used for joint replacement and trauma products etc.

Table 1

Chemical Composition										
Ti	Al	Nb	Ta	Fe	C	N	H	O	Other	
									Each	Total
balance	5.6~6.5	6.5-7.5	≤0.50	≤0.25	≤0.08	≤0.05	≤0.009	≤0.20	≤0.1	≤0.40

Table 2

Mechanical Properties					
Delivery Condition	Direction	σ <sub>b</sub> (MPa)	σ <sub>0.2</sub> (MPa)	δ <sub>5</sub> (%)	ψ (%)
Annealed	L	≥900	≥800	≥10	≥25
Hot Processed	L	≥900	≥800	≥10	≥25
Cold Processed	L	≥1100	≥800	≥10	≥25

Table 3

Ultrasonic Test			
Class	FBH (mm)	Noise Signal (dB)	Loss of Back Echo
A1	≤2.0	-6	≤50%



Fig. 1 Micrograph (200X)