

Ti-45Nb alloy is a kind of single phase titanium alloy material specially used in manufacture of fasteners, which is of higher tensile strength, shear strength and so on comprehensive mechanical properties, good processing performance and corrosion resistance. Due to smaller electric potential difference with composite material and good riveting performance, Ti-45Nb rivets are used by a lot of on civil & military aircraft in USA and Europe, successfully replacing pure titanium rivets and widely used in riveting of composite material. At present, WST can supply Ti45Nb straight or coiling wires in size of dia.2.4mm to dia.6.2mm according to AMS 4928D specification.

Table 1

Chemical Composition

Ti	Nb	Fe	Cr	Mn	C	Si	O	N	H
balance	42-47	<0.03	<0.02	<0.01	<0.04	<0.03	<0.16	<0.03	<0.0035

Table 2

Mechanical Properties (at room temperature)

Specification	Diameter (mm)	$\sigma_b$ (MPa)	$\sigma_{0.2}$ (MPa)	$\Delta 4D$ (%)	$\psi$ (%)	$\tau$ (Mpa)
ASTM B4982D	2.4~6.2	≥448	≥414	≥10	≥50	345≤τ≤410

Grain Size: ASTM No.5 or finer

Roughness: Ra≤1.6μm

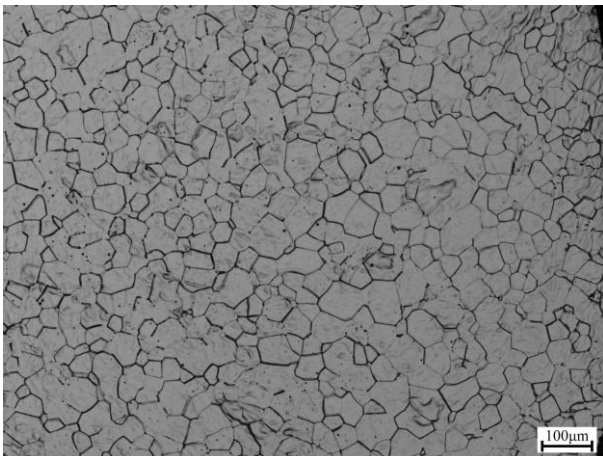


Fig. 1 Micrograph 100X

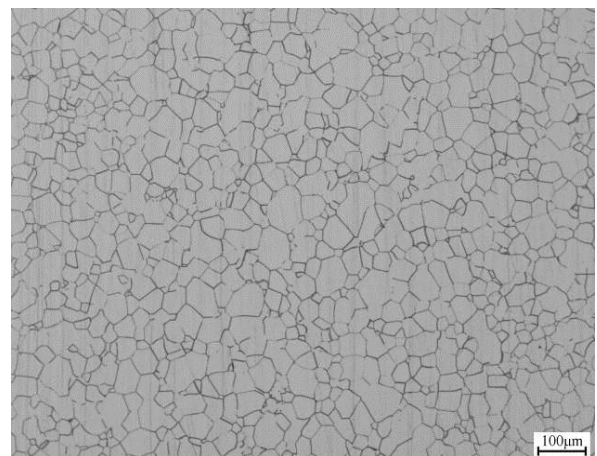


Fig. 2 Micrograph 100X