

Ti-6Al-2Sn-4Zr-6Mo is kind of  $\alpha+\beta$  titanium alloy that can be strengthened by solution treatment, developed in the late 1960s by Pratt Whitney Company in USA. The long-term use of temperature of this alloy can up to 450°C, which is lower a little than that of Ti-6Al-2Sn-4Zr-2Mo high temperature alloy. But Ti-6Al-2Sn-4Zr-6Mo is of higher strength at the high temperature, which is used for manufacture of aircraft engine spare parts with high bearing capacity in middle temperature section like discs of compressor etc. At the same time, the short-term use of temperature of Ti-6Al-2Sn-4Zr-6Mo alloy can up to 540°C. Besides having excellent strength of high temperature and creep resistance, Ti-6246 alloy is not sensitive for fatigue way with full load. This alloy become the first choice material of compressor spare parts working for long time at 400°C-450°C in order to meet long life and high reliable design requirement of aircraft engine.

Table 1

Chemical Composition						
Ti	Al	Sn	Zr	Mo	Fe	
balance	5.50-6.50	1.75-2.25	3.50-4.50	5.50-6.50	≤0.15	
O	N	C	H	Y	Residual	
≤0.15	≤0.04	≤0.04	≤0.0125	≤0.005	Each	Total
					≤0.1	≤0.40

Table 2

Mechanical Properties

	Diameter(mm)	Temperature	$\sigma_b$ (MPa)	$\sigma_{0.2}$ (MPa)	A (%)	Z (%)
AMS 4981F	>12.70-63.50	Room temperature	$\geq 1172$	$\geq 1103$	$\geq 10$	$\geq 20$
	>63.50-76.20		$\geq 1138$	$\geq 1069$	$\geq 8$	$\geq 15$
	>76.20-101.60		$\geq 1103$	$\geq 1034$	$\geq 8$	$\geq 15$
		427°C	$\geq 931$	$\geq 724$	$\geq 10$	$\geq 30$
		Creep	427°C/35h/655Mpa, $\leq 0.20\%$			

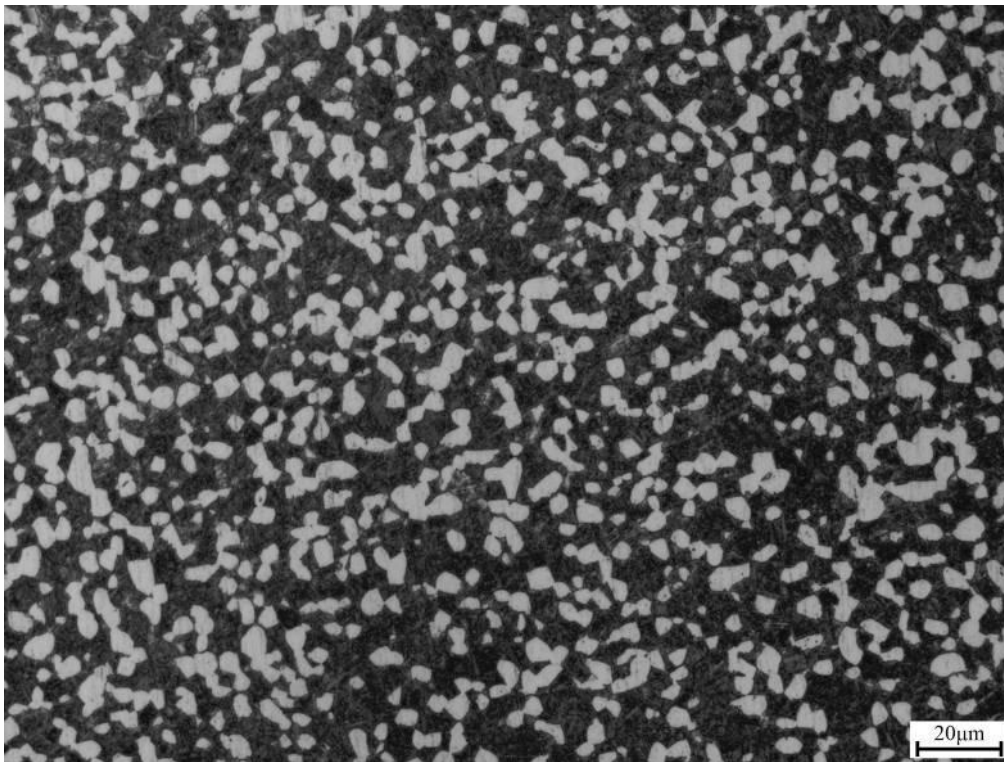


Fig.1 Micrograph 500X