

## Application and Characteristics of Titanium alloy

items	No.	Chemical composition		Room temperature mechanical properties			High temperature mechanical properties			Application
				Heat treatment	$\sigma_b$ /Mpa	$\delta$ /%	Test temperature / $^{\circ}$ C	$\sigma_b$ /MPa	$\sigma_{100}$ /MPa	
Industrial pure titanium	TA1	Ti(Very small impurities)		Annealing	300~500	30~40				Parts that work below 350 ° C and have low strength requirements
	TA2	Ti(Very small impurities)		Annealing	450~600	25~30				
	TA3	Ti(Very small impurities)		Annealing	500~700	20~25				
$\alpha$ Titanium	TA4	Ti-3Al	Al2.0~3.3	Annealing	700	12				Parts operating below 500 ° C, missile fuel tanks, supersonic aircraft turbines
	TA5	Ti-4Al-0.005B	Al3.3~4.7 B0.005	Annealing	700	15				
	TA6	Ti5Al	Al4.0~5.5	Annealing	700	12~20	350	430	400	
$\beta$ Titanium	TB2	Ti-5Mo-5V-8Cr-3Al	Al4.7~5.7 V4.7~5.7 Cr7.5~8.5 Al2.5~3.5	Quenching	100	20				Parts that work below 400 ° C, engine parts with high temperature strength, parts for low temperature
				Quenching + aging	1350	8				
$\alpha + \beta$ Titanium	TC1	Ti-2Al-1.5Mn	Al1.0~2.5 Mn0.7~2.0	Annealing	600~800	20~25	350	350	350	Parts that work below 400 ° C, engine parts with high temperature strength, parts for low temperature
	TC2	Ti-3Al-1.5Mn	Al3.5~5.0 Mn0.8~2.0	Annealing	700	12~15	350	430	400	
	TC3	Ti-5Al-4V	Al4.5~6.0 V3.5~4.5	Annealing	900	8~10	500	450	200	
	TC4	Ti-6Al-4V	Al5.5~6.8 V3.5~4.5	Annealing	950	10	400	630	580	
Quenching + aging				1200	8					

»» zhuanxin precision is a professional titanium alloy , all kind of metal material and **CNC machining parts** and **rapid prototype** manufacturers. If you want to know more about material or get a free inquiry, please contact us: [sales@zxmade.com](mailto:sales@zxmade.com) , we will reply to you within 2 hours.