

Standards of Titanium Products[Titanium Alloys]

Alloy classification	Nominal composition or company standard	Product form			Chemical composition(mass%)												Examples of Tensile properties at room temperature (minimum values)				Advantageous features	Main related standards, etc.	
		Plate	Sheet	Bar/ wire rod	Al	V	Mo	Cr	Zr	Sn	Si	Cu	Nb	Fe	O	N	C	Heat treatment *	0.2%proof stress min.(MPa)	Tensile strength min.(MPa)			Elongation min. (%)
$\alpha + \beta$ alloy	Ti - 3Al - 2.5V			○	2.5-3.5	2.0-3.0								≤0.25	≤0.15	≤0.03	≤0.08	Annealing	485	620	15	Good cold formability	ASTM Gr.9
																		483	620	15	JIS Class 61		
	Ti - 6Al - 4V			○	5.5-6.75	3.5-4.5								≤0.40	≤0.20	≤0.05	≤0.08	Annealing	828	895	10	Versatility	ASTM Gr.5
β alloy	Ti - 3Al - 8V - 6Cr - 4Mo - 4Zr			○	3.0-4.0	7.5-8.5	3.5-4.5	5.5-6.5	3.5-4.5					≤0.30	≤0.14 ≤0.12	≤0.03	≤0.05	ST STA	759 1100	793 1170	15 4	Good cold formability Good age hardenability	ASTM Gr.19, β -C
	Ti - 15V - 3Cr - 3Sn - 3Al		○*	○	2.5-3.5	14.0-16.0		2.5-3.5		2.5-3.5				≤0.25	≤0.13	≤0.05	≤0.05	ST STA	689 965	703 1100	12 7	Good Cold formability Good age hardenability	AMS4914* TIS1736
Company standard product	Super-TiX™800		○	○										0.50-1.50	0.25-0.45	≤0.02	≤0.08	Annealing	550	700	10	High strength between Gr. 9 (Class 61) and Gr. 5 (Class 60)	Original
	Super-TiX™800N	○												0.50-1.50	0.20-0.40	0.02-0.05	≤0.08	Annealing	550	700	10	High strength between Gr. 9 (Class 61) and Gr. 5 (Class 60)	Original
	Super-TiX™51AF(Ti-5Al-1Fe)		○	○	4.50-5.50									0.50-1.50	≤0.25	≤0.05	≤0.08	Annealing	700	800	10	High strength comparable to Gr. 5 (Class 60)	Original, AMS4947
	Super-TiX™52AFS		○		Confidential												-	-	-	-	High strength comparable to Gr.5, Cold formability	Original	
	Super-TiX®523AFM(Ti-5Al-2Fe-3Mo)			○	4.50-5.50		2.5-3.5							1.50-2.50	≤0.25	≤0.05	≤0.08	STA	1150 1120 1100	1300 1250 1200	6 8 10	Strength superior to Gr. 5 (Class 60) Adjustable depend on HT	Original
																		Annealing	870	950	10	Strength superior to Gr. 5 (Class 60)	
	Super-TiX™05CU(Ti-0.5Cu)	○										0.40-0.70		≤0.20	≤0.18	≤0.03	≤0.08	Annealing	165	270	27	Homogeneous structure	Original
	Super-TiX™10CU(Ti-1Cu)		○									0.80-1.20		≤0.20	≤0.15	≤0.03	≤0.08	Annealing	270	360	35	Good heat resistance	Original
	Super-TiX™10CUNB(Ti-1Cu-0.5Nb)		○									0.80-1.20	0.40-0.60	≤0.20	≤0.15	≤0.03	≤0.08	Annealing	270	360	35	Good heat resistance	Original
	Super-TiX™10CSSN-1(Ti-1Cu-1Sn-0.20Si-0.40Nb)		○								0.10-0.35	0.80-1.50	0.30-0.50	≤0.20	≤0.15	≤0.03	≤0.08	Annealing	270	395	20	Good heat resistance	Original
	Super-TiX20™AFG (Ti-2Al-0.2Fe)		○			1.50-2.50								0.10-0.30	≤0.15	≤0.05	≤0.08	Annealing	250	370	18	Good polishability Good machinability	Original
	Ti - 20V - 4Al - 1Sn		○			3.0-3.6	19.0-22.5				0.80-1.20			≤0.20	≤0.20	≤0.05	≤0.08	ST STA	600 950	630 1050	15 10	Good cold formability	Original

*: Please consult us when placing an order.

*ST : Solution treatment STA : Solution treatment + aging