

Master alloys for titanium alloys based on Vanadium

Denomination of the master alloys	Grade	mass fraction, % max																										Granulometric of Size		
		V	Al	Cr	As	B	Fe	Cu	N	O	C	S	P	Si	Y	Zn	Sn	Cd	Sb	Bi	Ti	H	Mg	Mn	Ni	Mo	Pb	W	Size of particles, mm	Screen Analysis, %
Vanadium-Aluminum	V-Al (73/27)	70-76	29-23	0.10	0.01	0.005	0.50	0.20	0.08	0.20	0.05	0.01	0.02	0.30	0.005	0.01	0.01	0.005	0.01	0.005	-	-	-	-	-	0.10	-	-	> 25,0 25,0-0,5 < 0,5	10% max balance 5% max
																													8,0-6,2 6,2-0,2 < 0,2	3% max balance 5% max
Vanadium-Aluminum	V-Al (65/35)	60-65	34-39	0.05	-	0.002	0.30	0.05	0.03	0.08	0.10	0.01	0.01	0.25	-	-	-	-	-	-	-	0.01	0.10	0.05	0.05	0.10	-	0.015	8,0-6,3 6,3-0,2 < 0,2	3% max balance 5% max
		62-68	32-38	0.05		0.003	0.40	0.05	0.03	0.10	0.08	0.01	0.01	0.30								0.01	0.10	0.05	0.05	0.15	0.10	0.015	8,0-6,3 6,3-0,2 < 0,2	3% max balance 5% max
Vanadium-Aluminum	V-Al (50/50)	50-54	45-49	0.10	-	0.003	0.40	0.05	0.04	0.10	0.15	0.02	0.03	0.35	-	-	-	-	-	-	0.01	0.25	0.05	0.05	0.10	-	0.015	6,0 - 0,2 <0,2	balance 5%	
Vanadium-Aluminum-Nitrogen	V-Al-N	70-76	29-23	0.10	0.01	0.005	0.50	0.20	0.5 - 0.7	0.20	0.05	0.01	0.02	0.30	0.005	0.01	0.01	0.005	0.01	0.005	-	-	-	-	-	0.10	-	-	> 25,0 25,0-0,5 < 0,5	10% max balance 5% max
Vanadium-Aluminum-Nitrogenium-Carbon	V-Al-N-C	70-76	29-23	0.10	0.01	0.005	0.50	0.20	1.1 - 1.5	0.10	0.6 - 0.9	0.01	0.02	0.30	0.005	0.01	0.01	0.005	0.01	0.005	-	-	-	-	-	0.10	-	-	> 10,0 10,0-0,5 < 0,5	10% max balance 5% max
Vanadium-Aluminum- Iron	V-Al-Fe	68-72	**	0.10	-	-	10 - 13	0.20	0.08	0.20	0.08	0.01	0.02	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	10,0-0,5 < 0,5	balance 5% max	
Vanadium-Aluminum-Titanium-Carbon	V-Al-Ti-C	45-60	24-50	-	-	-	0.80	0.20	0.10	0.35	1.8-3.5	0.03	0.03	0.50	-	-	-	-	-	-	**	-	-	-	-	-	-	> 15,0 15,0-0,5 < 0,5	10% max balance 5% max	
Vanadium-Aluminum-Titanium-Tin	V-Al-Ti-Sn	40-42	36-38	-	-	-	0.25	-	0.01	0.10	0.05	-	-	-	-	17-18.5	-	-	-	-	4-5	-	-	-	-	-	-	10,0-0,5 < 0,5	balance 5% max	

** - balance