

opper series	Type	Code	Cu+Ag	P	Ag	Bi	Sb	As	Fe	Ni	Pb	Sn	S	Zn	O
	Type 1 copper	T1	99.95	0.001	-	0.001	0.002	0.002	0.005	0.002	0.003	0.002	0.005	0.005	0.02
	Type 2 copper	T2	99.9	-	-	0.001	0.002	0.002	0.005	-	0.005	-	0.005	-	-
	Type 3 copper	T3	99.7	-	-	0.002	-	-	-	-	0.01	-	-	-	-
	Zero oxygen free copper	TU0	99.99	0.0003	0.0025	0.0001	0.0004	0.0005	0.001	0.001	0.0005	0.0002	0.0015	0.0001	0.0005
			Se: 0.001; Te: 0.001; Cd: 0.0001												
	Type 1 oxygen-free copper	TU1	99.97	0.002	-	0.001	0.002	0.002	0.004	0.002	0.003	0.002	0.004	0.003	0.002
	Type 2 oxygen-free copper	TU2	99.95	0.002	-	0.001	0.002	0.002	0.004	0.002	0.004	0.002	0.004	0.003	0.003
	Type 1 phosphorus deoxidized copper	TP1	99.9	0.004-0.012	-	-	-	-	-	-	-	-	-	-	-
Type 2 phosphorus deoxidized copper	TP2	99.9	0.015-0.020	-	-	-	-	-	-	-	-	-	-	-	

Lead brass series	Code	Main ingredient			Impurity component %		Total impurity %	Ordinary brass series	Main ingredient	Impurity component %			Impurity		Total impurity %
		Cu	Pb	Zn	Fe	Ni				Cu	Zn	Pb	Fe	Ni	
	HPb59-1	57-60	0.8-1.9	margin	≤0.5	≤1.0	≤1.0		H59	57-60	Bal.	≤0.5	≤0.5	≤1.0	≤0.3
	HPb59-2	57.5-59.5	2.0-2.8	margin	≤0.5	--	≤1.2		HP62	57-60	Bal.	≤0.08	≤0.5	≤0.5	≤0.15
	HPb59-3	57.5-59.5	2.0-3.0	margin	≤0.5	≤0.5	≤1.2		H65	63.5-68	Bal.	≤0.03	≤0.5	≤0.3	≤0.1
	HPb60-2	58-61	1.5-2.5	margin	≤0.3	-	-		H68	67-70	Bal.	≤0.03	≤0.5	≤0.3	≤0.1
	HPb62-2	60-63	1.5-2.5	margin	≤0.15	-	-		H70	68.5-71.5	Bal.	≤0.03	≤0.5	≤0.3	≤0.1
	HPb62-3	60-63	2.5-3.7	margin	≤0.35	-	-		H80	79-81	Bal.	≤0.03	≤0.5	≤0.3	≤0.1
	HPb63-3	62-65	2.4-3.0	margin	≤0.1	≤0.5	≤0.75		H85	84-86	Bal.	≤0.03	≤0.5	≤0.3	≤0.1
							H90	88-91	Bal.	≤0.03	≤0.5	≤0.2	≤0.1		
							H96	95-97	Bal.	≤0.03	≤0.5	≤0.2	≤0.1		

e copper se	Type	Chemical composition											
		Ni+Co	Fe	Mn	Zn	Pb	Si	P	C	Mg	Sn	Cu	Other
	B5	4.4-5.0	0.2	-	-	0.01	-	0.01	0.03	-	-	margin	0.5
	B19	18.0-20.0	0.5	0.5	0.3	0.005	0.15	0.01	0.05	0.05	-	margin	1.8
B25	24.0-26.0	0.5	0.5	0.3	0.005	0.15	0.01	0.05	0.05	0.03	margin	1.8	

Common Questions on Titanium Alloy Chemical Compositions

Q: What are the main chemical ingredients of TC4 (GR5) titanium alloy? A: According to the GB/T 3620.1-2007 standard, TC4 (GR5) titanium alloy consists of 5.5–6.75% Aluminum (Al) and 3.5–4.5% Vanadium (V), with titanium (Ti) as the remainder. For the TC4ELI version, the aluminum content is slightly tighter at 5.5–6.5% and vanadium at 3.5–4.4%.

Q: How does the impurity control differ between TA1ELI and TA1 industrial pure titanium? A: TA1ELI (Extra Low Interstitials) has much stricter impurity limits than standard TA1. For instance, the maximum Iron (Fe) content for TA1ELI is 0.10% and Oxygen (O) is 0.10%, whereas standard TA1 allows up to 0.20% Iron and 0.18% Oxygen.

Q: What is the unique composition of TA9 (GR7) and TA9-1 (GR11) alloys? A: These alloys are characterized by the addition of Palladium (Pd) to improve corrosion resistance. TA9 (GR7) contains 0.12–0.25% Palladium, while TA9-1 (GR11) contains 0.12–0.26% Palladium. Both maintain high titanium purity with standard interstitial impurity controls.

Q: Which titanium alloy grade includes Molybdenum (Mo) and Nickel (Ni) in its composition? A: TA10 (GR12) titanium alloy specifically includes 0.2–0.4% Molybdenum (Mo) and 0.6–0.9% Nickel (Ni). This specific combination enhances the alloy's strength and resistance to crevice corrosion in high-temperature environments.

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