PAC
Powder Alloy Corporation

ADDITIVE MANUFACTURING POWDERS SPECIFICATION GUIDE

PAC Product	Alloy	Similar Powders	Chemical Composition		Chemical Specification				
Stainless Steel Powders					UNS	ASTM	ISO	AMS	DIN
AMP 17-4AR	17-4ph	Stainless Steel 17-4PH	Cr 15.0-17.0	Ni 3.0-5.0	17400	A705	15156-3	5604	1.4542
		CL 92PH	Cu 3.0-5.0	Mn 1.0 max		S564		5643	
			Si 1.0 max	Mo 1.0 max		A693			
			Nb+Ta 0.15-0.45	C 0.10 max					
			Fe Bal						
AMP 15-5AR	15-5ph	Stainless Steel 15-5PH	Cr 14.0-15.5	Ni 3.5-5.5	S15500	A705		5659	1.454
			Cu 2.5-4.5	Mn 1.0 max		S564		5862	
			Si 1.0 max	Mo 1.0 max		A693			
			Nb 0.15-0.45	C 0.07 max					
			Fe Bal						
AMP 316L	SS 316L	StainlessSteel 316L	C 0.03 max	Si 0.75 max	S31673	F745	5832-1		1.4401
		CL20ES	Mn 2.0 max	P 0.025 max		F138			1.4404
			S 0.01 max	Cr 17.5-18.0					
			Ni 12.5-13	Mo 2.25-2.50					
			Cu 0.50 max	Fe Bal					

PAC Product	Alloy	Similar Powders	Chemical Composition		Chemical Specification				
Tool Steel Powders					UNS	ASTM	ISO	AMS	DIN
AMP M300E	18Ni300	CL50WS	C 0.03 max	Mn 0.15	K93120			6514	1.2709
		Tool Steel 1.2709	Si 0.10 max	Ni 17.0-19.0					
			Mo 4.50-5.20	Co 8.50-10.0					
			Ti 0.80-1.20	P 0.010 max					
			S 0.010	Fe Bal					

PAC Product	Alloy	Similar Powders	Chemical Composition		Chemical Specification				
Titanium Alloy Powders					UNS	ASTM	ISO	AMS	DIN
AMP 6Al4Vsp5	Ti6-4	Titanium Ti64	Al 5.5-6.5	V 3.5-4.5	R56400	F1472	5832-3	5954	3.7164
		CL40Ti	N 0.03 max	C 0.08 max		B348 gr 5		4911	
			H2 0.0125 max	Fe 0.25 max				4928	
			O 0.20 max	Res Each 0.1					
			Res Total 0.4	Ti Bal					
AMP 6Al4Vsp23	Ti6-4 ELI	Titanium Ti64ELI	Al 5.5-6.5	V 3.5-4.5	R56401	F136	5832-3	4956	3.7164
		CL41Ti-ELI	N 0.03 max	C 0.08 max		B348 gr 23			
			H2 0.0125 max	Fe 0.25 max		F3001			
			O 0.13 max	Res Each 0.1					
			Res Total 0.4	Ti Bal					

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Nickel & Cobalt Based Powders					UNS	ASTM	ISO	AMS	DIN
AMP 750	CoCrMo	CoCr28Mo6	C 0.16 max	Mn 1.0 max	R31538	F1537	5832-4		
		CL111	Si 1.0 max	Cr 27.0-30.0		F799	5832-12		
			Ni 0.50 max	Mo 5.0-7.0		F75			
			Fe 0.75 max	S 0.010 max					
			P 0.020 max	Al 0.10 max					
			Ti 0.10 max	W 0.20 max					
			B 0.010 max	Co Bal					
AMP 605	Haynes©25©		Cr 20.5-23	Fe 17-20	N06002	B 435		5536	2.4665
	L605		Mo 8-10	Mn 1 max		B 572		5754	
			Co .5-2.5	Si 1 max				5798	
			W 0.2-1	Ti 0.15 max					
© Haynes International			C 0.10 max	Ni Bal					
AMP 8188	Haynes©188©		Cr 20.0-24.0	C 0.05-0.015	R3018			5608	2.4683
			Ni 20.0-24.0	Fe 3.0 max				5801	
			Co Bal	Mn 1.25 max				5772	
			W 13.0-16.0	Si 0.2-0.5					
			La 0.02-0.12	P 0.02 max					
© Haynes International			B 0.015 max	S 0.015 max					
AMP 8814	Haynes© 214©		Cr 15-17	Al 4.1-5.0	N07214				
			Fe 2.0-2.8	Mn 0.50 max					
			B 0.004 max	Mo 0.50 max					
			C 0.05 max	S 0.015					
			Nb 0.15	Si 0.20					
			Co 2.0 max	Ti 0.50					
© Haynes International			W 0.50	Ni Bal					
AMP 8830	Haynes©230 ©		C 0.05-0.15	Fe 3.00 max	N06230	B435		5878	2.4733
			Mn 0.30-1.00	Al 0.20-0.50				5891	
			Si 0.25-0.75	W 13-15					
			P 0.03 max	Co 5.00 max					
			S 0.015 max	Mo 1.0-3.0					
			Cr 20-24	Ni Bal					
© Haynes International			La 0.005-0.05						
Haynes©282 ©	Haynes©282 ©	Proprietry	Proprietry			Proprietry		Proprietry	
© Haynes International									
AMP 8863	Nimonic© C263		C 0.04-0.08	Co 19.0-21.0	N107263			5872	2.465
			Cr 19.0-21.0	Mo 5.6-6.1					
			Ti 1.9-2.4	Al 0.6 max					
			Mn 0.60 max	Si 0.040 max					
			Cu 0.20 max	Fe 0.7 max					
© Special Metals			Ni Bal						

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PAC Product	Alloy	Similar Powders	Chemical Composition		Chemical Specification				
Nickel & Cobalt Based Alloy Powder - Continued					UNS	ASTM	ISO	AMS	DIN
AMP X	Hastelloy© X©		Cr 20.5-23	Fe 17-20	N06002	B 435		5536	2.4665
			Mo 8-10	Mn 1 max		B 572		5754	
			Co .5-2.5	Si 1 max				5798	
			W 0.2-1	P 0.04 max					
			Al 0.5 max	S 0.03 max					
			Ti 0.15 max	Cu 0.5 max					
			B 0.01 max	Ni Bal					
© Haynes International			C 0.10 max						
AMP 718	Inconel©718	CL100NB	Cr 17-21	Mn 0.35 max	7718	B537		5832	2.4668
			Mo 2.8-3.3	Si 0.35 max		B670		5596	
			Ti 0.65-1.15	P 0.015 max					
			Al 0.2-0.8	S 0.015 max					
			Co 1 max	B 0.006 max					
			C 0.08 max	Cu 0.3 max					
			Ni 50-55	Fe Bal					
© Special Metals			Cb+Ta 4.75-5.50						
AMP 625	Inconel©625	CL101NB	Cr 20-23	Ti 0.4 max	6625	446 Gr1		5599	2.4856
			Mo 8-10	C 0.1 max		443 Gr1		5666	
			Co 1 max	Fe 0.5 max					
			Cb+Ta 3.15-4.15	Mn 0.5 max					
			Al 0.4 max	Si 0.5 max					
			S 0.15 max	P 0.015 max					
© Special Metals			Ni Bal						

PAC Product	Alloy	Similar Powders	Chemical Composition		Chemical Specification				
Copper Alloy Powders					UNS	ASTM	ISO	AMS	DIN
AMP GR84	GRCop 84		Cr 6.0-7.0	Fe 50ppm					
			Nb 5.2-6.2	Cu Bal					
AMP GR42	GR Cop 42		Cr 3.10-3.40	Fe 50ppm					
			Nb 2.7-3.0	Cu Bal					
AMP Cu150	C18150		Cr 0.50-1.50	Zr 0.02-0.20	C18150				
			Cu Bal						

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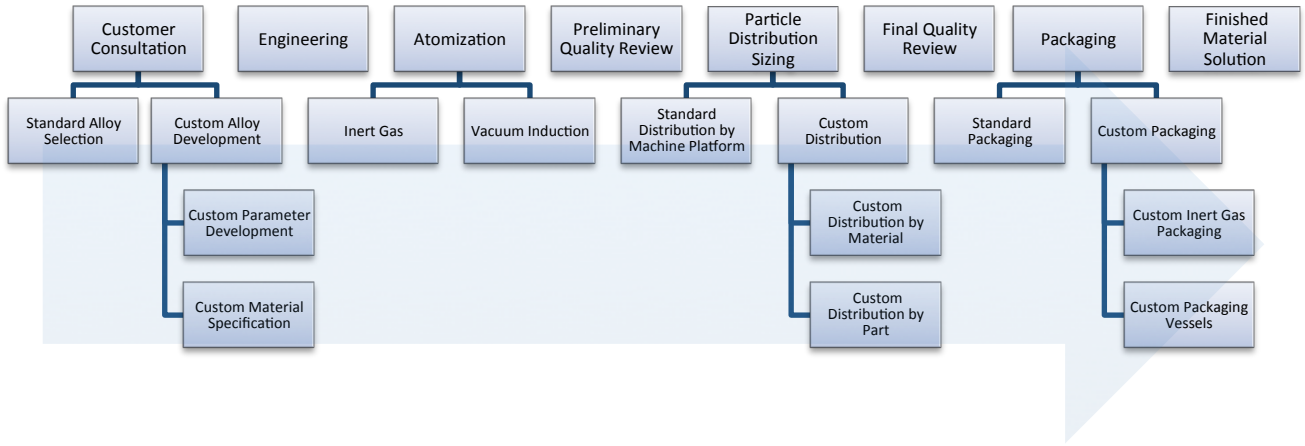
PAC Product	Alloy	Similar Powders	Chemical Composition		Chemical Specification				
Aluminum Alloy Powders					UNS	ASTM	ISO	AMS	DIN
AMP 716	AlSi10Mg	Al Alloy AlSi10Mg	Si 9.0-11.0	Zn 0.10 max	A13600	A03600			3.2381
		CL31Al	Fe 0.55 max	Pb 0.05 max					
			Cu 0.05 max	Sn 0.05 max					
			Mn 0.45 max	Ti 0.15 max					
			Mg 0.2-0.45	Al Bal					
			Ni 0.05 max						
AMP 901M	AlSi12	Al Alloy AlSi12	Al Oxide 0.8 max	Mn 0.15	A49047				3.2852
		CL30AL	Cu 0.30	Si 11-13					
			Fe 0.80	Zn 0.20					
			Mg 0.15	Al Bal					



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