

stainles steels for MIM

MICRO MELT	C	Cr	Ni	Mo	Si	Mn	Cu	others	comparable grades			
420	0,40 - 0,47	13,0 -14	-	-	0,40 - 0,60	0,20 - 0,40	-	N≤ 0,10	1,40 34	X46cR 13 S 42000		
440c	0,95 - 1,20	16,0 - 18,0	≤ 1,00	0,40 - 0,75	≤1,0 0	≤ 1,00	-	N≤ 0,20	1,41 25	X105 crmo17 s44004		
316l	≤0,0 30	16,0 - 17,2	10- 11	2- 2,4	0,20 - 0,75	1- 1,6	-	N≤0,2 0	1,44 04	X2CrNi Mo 17132 s31603		
316L 1,5M A	≤0,0 30	23,8 - 24,8	14,7 - 15,3	2,9- 3,4	≤0,7 5	≤0,5 0	-	N≤0,2 0 o≤250 ppm	-	-		
17-4 PH	0,04 - 0,07	15,0 - 17,0	3-5	-	≤1,0 0	≤1,0 0	3,00 - 5,00	Nb+ta ≤0,45	1,45 42	X5CrNi Cu Nb174 S17400		
17-4 PH 1,5M A	≤0,0 40	22,5 - 25,5	4,50 - 7,50	≤0,1 0	≤1,5 0	≤1,5 0	4,50 - 7,50	Nb+ta ≤0,68 N≤0,2 0	-	-		

STANDAR PARTICLE SIZES FOR MIM POWDERS

	- 16μ m	- 22μ m	- 31μ m	- 44μ m							
PARTICLE DISTRIBUTION	≥ 85 %	≥ 85 %	≥ 85 %	≥ 95%							

HIGH SPEED STEEL & TOOL STEEL POWDERS

MICRO MELT	C	Cr	Mo	Mn	V	W	Co	comparable grades			
23	1,26 - 1,30	3,90 - 4,50	4,80 - 5,30	0,30 - 0,40	6- 6,70	≤0,5 0	1,33 44	T1132 3			

30	1,27 - 1,31	3.85 - 4.50	4.80 - 5.25	0.20 - 0.40	5.95 - 6.70	8- 8,70	1,32 07	-					
60	2,28 - 2,33	3.80 - 4.50	6.75 - 7.25	0.30 - 0.50	6.25 - 6.75	10- 11	1,32 41	-					
M4	1.35 - 1.38	4- 4.50	4.50 - 5.00	0.20 - 0.40	5.25 - 5.70	≤0,8 0	-	T1130 4					
T15	1.55 - 1.64	4.35 - 4.90	≤1	0.20 - 0.40	12.1 0 - 12.9 0	4,70 - 5,30	1,32 02	T1201 5					
T15 PLU S	1.55 - 1.65	4.50 - 5.00	1.90 - 2.10	0.25 - 0.35	10.2 5 - 10.7 5	7,75 - 8,25	-	-					
Maxa ment	2.10 - 2.20	4.50 - 5.00	≤0.9 0	0.20 - 0.40	12.5 0 - 13.5 0	9,75 - 10,2 5	-	-					
M48	1.42 - 1.50	3.50 - 4.00	4.75 - 5.50	≤ 0.40	9.50 - 10.5 0	8-10		T1134 8					
D7	2.20 - 2.40	12.0 0- 13.0 0	0.90 - 1.20	0.30 - 0.45	≤0,1 0	≤0,2 0	-	T3040 7					
A11 LVC	1.82 - 1.88	5.00 - 5.30	1.15 - 1.40	0.40 - 0.60	≤0,2 5	≤0,9 0	1,23 80	-					
A11	2.43 - 2.50	5.10 - 5.50	1.10 - 1.40	0.40 - 0.60	≤0,3 0	≤0,5 0	-	T3011 1					
CD#1	0.63 - 0.73	8.00 - 8.50	1.30 - 1.50	0.30 - 0.50	≤0,3 0	≤0,2 5	-	-					
PD#1	1.05 - 1.15	7.50 - 8	1.50 - 1.70	≤ 0.40	1- 1,20	≤0,0 90	-	-					

440	2.15 - 2.25	17- 18	0.40 - 0.60	0.40 - 0.50	≤0,3 0	-	-	-				
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STADAR PARTICLE SIZES FOR HIP POWDERS

μmm	-500	-250				
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**POWDER FOR THERMAL SPRAY and GAS TURBINE
REFURBISHMENT**

MICRO MELT	C	Cr	Ni	Mo	Si	Ti	AL	W	Co	Y	OTHERS	comparable grades
G183	-	14	BA L	-	-	-	3	-	9.5	-	-	Rene 80
G192	-	21	BA L	-	-	-	10	-	-	1	-	NiCrA LY
G195	-	21	32	-	-	-	8	-	BA L	0.5	-	CoNi C rALY
G202	-	19	BA L	3	-	1	0.5	-	-	-	Fe ≤18 Nb ≤5, 0	IN718
G271	PRIORITY OF GE RENE142											
G304	0.6	23	10	-	-	0.2	-	7	BA L	-	Ta ≤3. 5	mAR m 509
P131 6	0.55	25	10.5	-	-	-	-	7	BA L	-	-	x-40
P131 8	0.55	25	10.5	-	-	-	-	7	BA L	-	-	x-40
M247	-	8.4	BA L	0.7	-	1	5.5	10	10	-	Ta ≤3. 0 Hf ≤1. 4	MarM 247
IN71 3	-	14	BA L	-	-	1	6	-	-	-	Nb ≤2. 0	IN713
SICO AT 2231	PRIORITY OF SIEMENS OF SIEMENS										PRIORITY	
SICO AT 2453	PRIORITY OF SIEMENS OF SIEMENS										PRIORITY	

SICO AT 2464	PRIORITY OF SIEMENS										PRIORITY	
	OF SIEMENS											

standar PRACTICLE SIZEW FOR THERMAL SPRAYNG POWDERS

µmm	45/1 6	53/2 2	75/4 5	90/4 5	105/ 45	125/ 45						
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POWDER FOR THERMAL SPRAYING APPLICATION

MICRO MELT	C	Cr	Ni	Mo	Fe	Nb	Co	OTH ERS		compa rable grades		
420	0.40 - 0.47	13- 14	-	-	BA LL	-	-	N ≤0.1 0	1.40 34	x46Cr 13FeCr		
316L	≤0.0 30	16- 17.2	10- 11	2- 2.4	BA LL	-	-	Ni ≤0. 20	1.44 04	X2CrN iMo 17132 FeCrNi Mo		
625	≤0.1 0	21- 22	BA LL	8.50 - 9.50	2.50 - 5	3.15 - 4	≤1	Ti ≤0. 40 Al ≤0. 40	2.48 56	NiCrM oNb		
622	≤0.0 15	21.5 - 22.5	BA LL	13- 14	2-4	-	≤2.5	N ≤0.1 0 O ≤30 0 ppm	-	NiCrM o FeW		
6	0.90 -1	26.5 -29	≤3	≤1	≤3	≤0.1 0	BA LL	Ti ≤0. 020 Al ≤0.0 1	-	CoCrW		
CCM +	0.20 - 0.30	26- 30	-	5-7	-	-	BA LL	0.15 ≤ N ≤0.20	-	CoCrM o		

**POWDERS FOR HARDFACING AND WELD OVERLAYS BY PTA
AND LASER**

MICRO MELT	C	Cr	Ni	Mo	Si	Mn	Fe	W	Co	OTHE RS	comp a rable grades	
420	0.40 -	13- 14	-	-	0.40 -	0.20 -	BA LL	-	-			

	0.47				0.60	0.40						
316L	≤0.030	16-17.2	10-11	2-2.4	0.20-0.75	1-1.6	BALL	-	-			
6	0.90-1	26.5-29	≤3.0	≤1	0.80-1.5	0.100-1	≤3	4-5.5	BALL			
625	≤0.10	21-22	BALL	8.5-9.5	≤0.50	0.25-0.50	2.5-5	-	≤1			
622	≤0.015	21.5-22.5	BALL	13-14.5	0.40-0.60	0.30-0.50	2-4	2.9-3.5	≤2.5			
STANDART PARTICLE SIZES FOR PTA AND LASER POWDERS												
μm	125/45	150/45	180/45	53/150	53/180	180/63	210/63					