

MACHINING CONDITIONS - SOLID END MILLS - DEPTH OF CUT AND FEED

BALL NOSE, 2 FLUTE | LT 4000 - Ø 1 - 6, 8, 10, 12

Material Group	Lamina Gr. N°	Material Examples	Hardness	Profiling		Slotting				fz [mm/tooth]					
				ap	ae	ap	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12
P Non Alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB 190 HB 250 HB	1.5xØ	0.5xØ	1.0xØ	0.035	0.045	0.065	0.080	0.105	0.100	0.115	0.125	0.140
	2	42CrMo4, Si50, Ck60, 4140, 4340, 100Cr6	180 HB 230 HB 280 HB 350 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.042	0.061	0.075	0.099	0.094	0.108	0.118	0.132
	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB 280 HB 320 HB 350 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.036	0.051	0.063	0.083	0.079	0.091	0.099	0.111
M Austenitic Duplex	4	304, 316, X5CrNi18-9	180 HB 240 HB	1.5xØ	0.5xØ	1.0xØ	0.023	0.029	0.042	0.052	0.068	0.065	0.075	0.081	0.091
	5	X2CrNiN23-4, S31500	290 HB 310 HB	1.5xØ	0.5xØ	1.0xØ	0.018	0.023	0.033	0.040	0.053	0.050	0.058	0.063	0.070
Ferritic & Martensitic	6	410, X6Cr17, 17-4PH, 430	200 HB 42 HRc	1.5xØ	0.5xØ	1.0xØ	0.024	0.031	0.044	0.054	0.071	0.068	0.078	0.085	0.095
	7	GG20, GG40, EN-GJL-250, N030B	150 HB 200 HB 250 HB	1.5xØ	0.5xØ	1.0xØ	0.039	0.050	0.072	0.088	0.116	0.110	0.127	0.138	0.154
K Grey Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB 200 HB 250 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.043	0.062	0.076	0.100	0.095	0.109	0.119	0.133
	9	Incoloy 800 Inconel 700 Stellite 21	240 HB 250 HB 350 HB	1.5xØ	0.3xØ	1.0xØ	0.022	0.029	0.042	0.051	0.067	0.064	0.074	0.080	0.090
S Fe, Ni & Co based	10	T40 TiAl6V4	- -	1.5xØ	0.5xØ	1.0xØ	0.019	0.025	0.036	0.044	0.058	0.055	0.063	0.069	0.077
	11	X100CrMo13, 440C, G-X260NiCr42	45 HRC 50 HRC 55 HRC	1.5xØ	0.3xØ	0.2xØ	0.014	0.018	0.026	0.032	0.042	0.040	0.046	0.050	0.056
H Steel Chilled Cast Iron White Cast Iron	12	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.011	0.014	0.020	0.024	0.032	0.030	0.035	0.038	0.042
	13	G-X300CrMo15	55 HRC	1.5xØ	0.2xØ	0.1xØ	0.011	0.014	0.020	0.024	0.032	0.030	0.035	0.038	0.042
NF Aluminium	14	AISI12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.035	0.045	0.065	0.080	0.105	0.100	0.115	0.125	0.140

ROUGHER, 3 – 4 FLUTE | LT 4000 - Ø 4 - 6, 8, 10, 12

Material Group	Lamina Gr. N°	Material Examples	Hardness	Profiling		Slotting				fz [mm/tooth]					
				ap	ae	ap	Ø 4 (Z3)	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12			
P Non Alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB 190 HB 250 HB	1.5xØ	0.5xØ	1.0xØ	0.024	0.030	0.040	0.055	0.065	0.077			
	2	42CrMo4, Si50, Ck60, 4140, 4340, 100Cr6	180 HB 230 HB 280 HB 350 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.030	0.039	0.053	0.063	0.074			
	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB 280 HB 320 HB 350 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.026	0.033	0.046	0.055	0.064			
M Austenitic Duplex	4	304, 316, X5CrNi18-9	180 HB 240 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.022	0.028	0.038	0.045	0.053			
	5	X2CrNiN23-4, S31500	290 HB 310 HB	1.5xØ	0.5xØ	1.0xØ	0.013	0.017	0.021	0.029	0.035	0.040			
Ferritic & Martensitic	6	410, X6Cr17, 17-4PH, 430	200 HB 42 HRc	1.5xØ	0.5xØ	1.0xØ	0.013	0.017	0.021	0.029	0.035	0.040			
	7	GG20, GG40, EN-GJL-250, N030B	150 HB 200 HB 250 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.036	0.047	0.064	0.076	0.089			
K Grey Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB 200 HB 250 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.031	0.040	0.055	0.066	0.077			
	9	Incoloy 800 Inconel 700 Stellite 21	240 HB 250 HB 350 HB	1.5xØ	0.3xØ	1.0xØ	0.014	0.018	0.023	0.031	0.037	0.044			
H Steel	10	T40 TiAl6V4	- -	1.5xØ	0.5xØ	1.0xØ	0.015	0.018	0.023	0.032	0.038	0.045			
	11	X100CrMo13, 440C, G-X260NiCr42	45 HRC 50 HRC 55 HRC	1.5xØ	0.3xØ	0.2xØ	0.011	0.013	0.017	0.023	0.028	0.032			
	12	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.008	0.010	0.013	0.017	0.021	0.024			
Chilled Cast Iron White Cast Iron	13	G-X300CrMo15	55 HRC	1.5xØ	0.2xØ	0.1xØ	0.008	0.010	0.013	0.017	0.021	0.024			
	14	AISI12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.027	0.033	0.042	0.058	0.069	0.081			