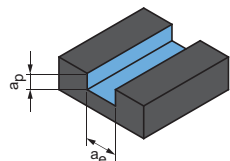
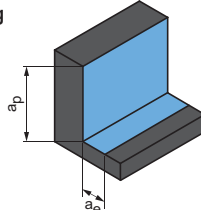


Cutting data recommendations for shoulder milling cutters

Feed and cutting speed

OptiMill-Uni-HPC-Rough SCM700, 710								Tool length/correction factor: <table><tr><td>Length</td><td>f_z & v_c</td></tr><tr><td>short</td><td>1</td></tr><tr><td>long</td><td>0.9</td></tr></table>								Length	f _z & v _c	short	1	long	0.9	Groove milling								Roughing							
																Length	f _z & v _c																				
																short	1																				
																long	0.9																				
																																					
MMG*		Workpiece material		Strength/hardness [N/mm ²] [HRC]		Cooling		v _c [m/min]	f _z [mm]								v _c [m/min]	f _z [mm]																			
									Diameter of milling cutter [mm]									Diameter of milling cutter [mm]																			
									6.00 8.00 10.00 12.00 16.00 20.00 25.00									6.00 8.00 10.00 12.00 16.00 20.00 25.00																			
P	P1	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700	✓	✓	✓		200	0.035	0.044	0.053	0.061	0.075	0.085	0.095	355	0.059	0.075	0.090	0.103	0.126	0.145	0.161													
		P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1200	✓	✓	✓		165	0.032	0.041	0.050	0.057	0.070	0.080	0.089	290	0.055	0.070	0.084	0.097	0.118	0.135	0.151													
	P2	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900	✓	✓	✓		180	0.035	0.044	0.053	0.061	0.075	0.085	0.095	325	0.059	0.075	0.090	0.103	0.126	0.145	0.161													
		P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1400	✓		✓		125	0.029	0.037	0.044	0.051	0.062	0.071	0.079	225	0.049	0.063	0.075	0.086	0.105	0.120	0.134													
	P3	P3.1	Tool, bearing, spring and high-speed steels**	< 800	✓	✓	✓		120	0.034	0.043	0.051	0.059	0.072	0.082	0.092	210	0.057	0.073	0.087	0.100	0.122	0.140	0.156													
		P3.2	Tool, bearing, spring and high-speed steels**	< 1000	✓		✓		110	0.032	0.041	0.049	0.056	0.068	0.078	0.087	195	0.054	0.069	0.083	0.095	0.116	0.132	0.148													
		P3.3	Tool, bearing, spring and high-speed steels**	< 1500	✓		✓		100	0.030	0.038	0.046	0.053	0.065	0.074	0.082	180	0.051	0.065	0.078	0.090	0.110	0.125	0.140													
	P4	P4.1	Stainless steels, ferritic and martensitic		✓		✓		80	0.023	0.030	0.035	0.041	0.050	0.057	0.063	145	0.039	0.050	0.060	0.069	0.084	0.096	0.108													
P5	P5.1	Cast steel				✓	120	0.034	0.043	0.051	0.059	0.072	0.082	0.092	215	0.057	0.073	0.087	0.100	0.122	0.140	0.156															
P6	P6.1	Stainless cast steel, ferritic and martensitic				✓	80	0.016	0.021	0.025	0.028	0.035	0.040	0.044	145	0.027	0.035	0.042	0.048	0.059	0.067	0.075															
M	M1	M1.1	Stainless steels, austenitic	< 700	✓		✓	55	0.020	0.026	0.031	0.036	0.043	0.050	0.055	110	0.034	0.044	0.053	0.060	0.074	0.084	0.094														
		M1.2	Stainless steels, ferritic/austenitic (duplex)	< 1000			✓	50	0.017	0.021	0.026	0.029	0.036	0.041	0.046	105	0.028	0.036	0.044	0.050	0.061	0.070	0.078														
	M2	M2.1	Stainless/heat-resistant cast steel, austenitic	< 700	✓		✓	60	0.022	0.028	0.034	0.039	0.047	0.054	0.060	120	0.037	0.048	0.057	0.066	0.080	0.092	0.102														
		M3.1	Stainless cast steel, ferritic/austenitic (duplex)	< 1000			✓	55	0.017	0.022	0.027	0.031	0.037	0.043	0.048	110	0.029	0.038	0.045	0.052	0.063	0.072	0.081														
K	K1	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	✓	✓	✓	215	0.058	0.074	0.088	0.102	0.124	0.142	0.158	440	0.098	0.125	0.150	0.172	0.211	0.241	0.269														
		K2.1	Cast iron with spheroidal graphite, GJS	< 500	✓	✓	✓	200	0.049	0.063	0.075	0.086	0.106	0.121	0.135	405	0.083	0.106	0.128	0.147	0.179	0.205	0.228														
	K2	K2.2	Cast iron with spheroidal graphite, GJS	≤ 800	✓	✓	✓	160	0.040	0.052	0.062	0.071	0.087	0.099	0.111	330	0.069	0.088	0.105	0.121	0.147	0.169	0.188														
		K2.3	Cast iron with spheroidal graphite, GJS	> 800	✓	✓	✓	90	0.023	0.030	0.035	0.041	0.050	0.057	0.063	185	0.039	0.050	0.060	0.069	0.084	0.096	0.108														
	K3	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	✓	✓	✓	145	0.040	0.052	0.062	0.071	0.087	0.099	0.111	295	0.069	0.088	0.105	0.121	0.147	0.169	0.188														
		K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500	✓	✓	✓	135	0.035	0.044	0.053	0.061	0.075	0.085	0.095	275	0.059	0.075	0.090	0.103	0.126	0.145	0.161														