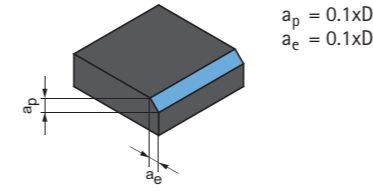


Cutting data recommendation for radius and deburring milling cutter

Feed and cutting speed

Finishing



OptiMill-Chamfer | SCM340

MMG*		Workpiece material	Strength/hardness [N/mm ²] [HRC]	Cooling			v_c [m/min]	f_z [mm]						
				MQL/Air	Dry	Coolant		Diameter of milling cutter [mm]						
								4.00	6.00	8.00	10.00	12.00	16.00	20.00
P	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700	✓	✓	✓	215	0.043	0.061	0.078	0.094	0.108	0.132	0.151
	P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1200	✓	✓	✓	175	0.040	0.057	0.073	0.088	0.101	0.123	0.141
	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900	✓	✓	✓	195	0.043	0.061	0.078	0.094	0.108	0.132	0.151
	P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1400	✓		✓	140	0.036	0.051	0.065	0.078	0.090	0.110	0.125
	P3.1	Tool, bearing, spring and high-speed steels**	< 800	✓	✓	✓	130	0.041	0.059	0.076	0.091	0.104	0.127	0.146
	P3.2	Tool, bearing, spring and high-speed steels**	< 1000	✓		✓	120	0.039	0.056	0.072	0.086	0.099	0.121	0.138
	P3.3	Tool, bearing, spring and high-speed steels**	< 1500	✓		✓	110	0.037	0.053	0.068	0.081	0.093	0.114	0.131
	P4.1	Stainless steels, ferritic and martensitic		✓		✓	90	0.028	0.041	0.052	0.063	0.072	0.088	0.100
	P5.1	Cast steel				✓	130	0.041	0.059	0.076	0.091	0.104	0.127	0.146
	P6.1	Stainless cast steel, ferritic and martensitic				✓	90	0.020	0.029	0.037	0.044	0.050	0.061	0.070
M	M1.1	Stainless steels, austenitic	< 700	✓		✓	75	0.025	0.036	0.046	0.055	0.063	0.077	0.088
	M1.2	Stainless steels, ferritic/austenitic (duplex)	< 1000			✓	70	0.021	0.030	0.038	0.045	0.052	0.064	0.073
	M2.1	Stainless/heat-resistant cast steel, austenitic	< 700	✓		✓	80	0.027	0.039	0.050	0.059	0.068	0.083	0.095
	M3.1	Stainless cast steel, ferritic/austenitic (duplex)	< 1000			✓	75	0.021	0.031	0.039	0.047	0.054	0.066	0.075
K	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	✓	✓	✓	290	0.071	0.102	0.131	0.156	0.180	0.220	0.251
	K2.1	Cast iron with spheroidal graphite, GJS	< 500	✓	✓	✓	265	0.060	0.087	0.111	0.133	0.153	0.187	0.213
	K2.2	Cast iron with spheroidal graphite, GJS	500-800	✓	✓	✓	220	0.050	0.072	0.091	0.109	0.126	0.154	0.176
	K2.3	Cast iron with spheroidal graphite, GJS	> 800	✓	✓	✓	120	0.028	0.041	0.052	0.063	0.072	0.088	0.100
	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	✓	✓	✓	195	0.050	0.072	0.091	0.109	0.126	0.154	0.176
	K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500	✓	✓	✓	180	0.043	0.061	0.078	0.094	0.108	0.132	0.151
N	N1.1	Aluminium, non-alloy and alloy < 3 % Si		✓	✓	✓	635	0.053	0.076	0.097	0.116	0.133	0.162	0.186
	N1.2	Aluminium, alloy ≤ 7 % Si		✓	✓	✓	420	0.055	0.079	0.101	0.121	0.140	0.171	0.195
	N1.3	Aluminium, alloy > 7-12 % Si		✓	✓	✓	335	0.058	0.083	0.106	0.127	0.146	0.179	0.204
	N1.4	Aluminium, alloy > 12 % Si		✓	✓	✓	245	0.063	0.091	0.116	0.139	0.160	0.195	0.223
	N2.1	Copper, non-alloy and low-alloy	< 300	✓	✓	✓	245	0.042	0.060	0.077	0.093	0.106	0.130	0.149
	N2.2	Copper, alloy	> 300	✓	✓	✓	180	0.042	0.060	0.077	0.093	0.106	0.130	0.149
	N2.3	Brass, bronze, gunmetal	< 1200	✓	✓	✓	305	0.026	0.038	0.048	0.058	0.066	0.081	0.093

* MAPAL machining groups

** If the alloy parts Cr, Mo, Ni, V, W in total > 8%, then select the next highest MAPAL machining group.

The specified machining values are guide values.

The optimum data for the respective machining task should be determined during the test or machining.