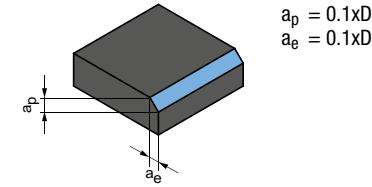


Cutting data recommendation for chamfering and deburring milling cutter

Feed and cutting speed

Finishing



OptiMill-Chamfer I M5390

MMG*	Workpiece material	Strength/hardness [N/mm ²] [HRC]	Cooling			V _c [m/min]	f _z [mm]							
			MQL/Air	Dry	KSS		Diameter of milling cutter [mm]							
							4.00	6.00	8.00	10.00	12.00	16.00	20.00	
P	P1.1	Structural, machining, case hardened and tempering steels, unalloyed	< 700	✓	✓	✓	215	0.043	0.061	0.078	0.094	0.108	0.132	0.151
	P1.2	Structural, machining, case hardened and tempering steels, unalloyed	< 1,200	✓	✓	✓	175	0.040	0.057	0.073	0.088	0.101	0.123	0.141
	P2.1	Nitriding, hardening and tempering steels, alloyed	< 900	✓	✓	✓	195	0.043	0.061	0.078	0.094	0.108	0.132	0.151
	P2.2	Nitriding, hardening and tempering steels, alloyed	< 1,400	✓	✓	✓	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**	< 1,000	✓	✓	✓	120	0.039	0.056	0.072	0.086	0.099	0.121	0.138
	P3.3	Tool, bearing, spring and high-speed steels**	< 1,500	✓	✓	✓	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 steels, 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)	< 1,000			✓	70	0.021	0.030	0.038	0.045	0.052	0.064	0.073
	M2.1	Stainless 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)	< 1,000			✓	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 vermicular 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 vermicular 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, unalloyed and alloyed < 3% Si		✓	✓	✓	635	0.053	0.076	0.097	0.116	0.133	0.162	0.186
	N1.2	Aluminium, alloyed < 7% Si		✓	✓	✓	420	0.055	0.079	0.101	0.121	0.140	0.171	0.195
	N1.3	Aluminium, alloyed > 7 - 12% Si		✓	✓	✓	335	0.058	0.083	0.106	0.127	0.146	0.179	0.204
	N1.4	Aluminium, alloyed > 12% Si		✓	✓	✓	245	0.063	0.091	0.116	0.139	0.160	0.195	0.223
N2	N2.1	Copper, unalloyed and low alloyed	< 300	✓	✓	✓	245	0.042	0.060	0.077	0.093	0.106	0.130	0.149
	N2.2	Copper, alloyed	> 300	✓	✓	✓	180	0.042	0.060	0.077	0.093	0.106	0.130	0.149
	N2.3	Brass, bronze, gunmetal	< 1,200	✓	✓	✓	305	0.026	0.038	0.048	0.058	0.066	0.081	0.093

* MILLER machining groups

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