

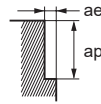
RECOMMENDED CUTTING CONDITIONS

Side milling

(inch)

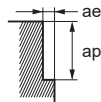
Workpiece Material	Carbon Steel, Alloy Steel, Mild Steel				Pre-hardened Steel, Carbon Steel, Alloy Steel, Alloy Tool Steel				Austenitic, Ferritic and Martensitic Stainless Steels, Titanium Alloys				Hardened Stainless Steels, Cobalt Chromium Alloys				
	Dia. DC (mm)	Dia. DC (inch)	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of cut ap	Depth of cut ae	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of cut ap	Depth of cut ae	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of cut ap	Depth of cut ae	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of cut ap
6	.236	10600	70.9	.709	.035	9500	59.1	.709	.035	6400	39.4	.709	.018	5300	31.5	.709	.018
8	.315	8000	70.9	.945	.047	7200	59.1	.945	.047	4800	39.4	.945	.024	4000	31.5	.945	.024
10	.394	6400	66.9	1.181	.059	5700	55.1	1.181	.059	3800	35.4	1.181	.030	3200	31.5	1.181	.030
12	.472	5300	66.9	1.417	.071	4800	55.1	1.417	.071	3200	31.5	1.417	.035	2700	27.6	1.417	.035
16	.630	4000	55.1	1.890	.094	3600	47.2	1.890	.094	2400	27.6	1.890	.047	2000	23.6	1.890	.047
20	.787	3200	47.2	2.362	.118	2900	39.4	2.362	.118	1900	23.6	2.362	.059	1600	19.7	2.362	.059

Depth of Cut



Workpiece Material	Copper, Copper Alloys				Heat Resistant Alloys				
	Dia. DC (mm)	Dia. DC (inch)	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of cut ap	Depth of cut ae	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of cut ap
6	.236	11700	82.7	.709	.035	2100	7.9	.709	.007
8	.315	8800	82.7	.945	.047	1600	7.9	.945	.009
10	.394	7000	70.9	1.181	.059	1300	7.9	1.181	.012
12	.472	5800	70.9	1.417	.071	1100	3.9	1.417	.014
16	.630	4400	59.1	1.890	.094	800	3.9	1.890	.019
20	.787	3500	55.1	2.362	.118	600	3.9	2.362	.024

Depth of Cut



Note 1) SMART MIRACLE coating has very low electrical conductivity; therefore, an electrical contact type of tool setter may not work. When measuring the tool length, please use a mechanical contact type or a laser tool setter.

Note 2) The irregular pitch flute end mill has a larger effect on controlling vibration when compared to standard end mills. However, if the rigidity of the machine or the workpiece material installation is poor, vibration or abnormal sounds can occur. In that case, please adjust the revolution, feed rate and depth of cut.

Note 3) The revolution and feed rate can be increased with a smaller depth of cut.

Note 4) For stainless steel, titanium alloys and heat resistant alloys, the use of water-soluble coolant is effective.