

Recommended Cutting Conditions

Side Milling

(inch)

Workpiece Material		Carbon steel, Cast iron, Alloy steel (—30HRC)				Alloy steel, Tool steel, Pre-hardened steel				Austenitic stainless steel, Titanium alloy			
		AISI 1050, AISI No 35 B, AISI P20				AISI H13, AISI W1-10, AISI P21				AISI 304, AISI 306, Ti-6Al-4V			
Dia. DC		Revolution	Feed rate	Depth of Cut	Width of Cut	Revolution	Feed rate	Depth of Cut	Width of Cut	Revolution	Feed rate	Depth of Cut	Width of Cut
(mm)	(inch)	(min ⁻¹)	(IPM)	ap	ae	(min ⁻¹)	(IPM)	ap	ae	(min ⁻¹)	(IPM)	ap	ae
3	.118	10000	23.6	.118	.024	7000	15.7	.118	.024	6000	11.8	.118	.024
4	.157	7500	23.6	.157	.024	5200	15.7	.157	.024	4500	11.8	.157	.024
5	.197	6000	23.6	.197	.024	4200	15.7	.197	.024	3600	11.8	.197	.024
6	.236	5000	23.6	.236	.024	3500	15.7	.236	.024	3000	11.8	.236	.024
7	.276	4500	22.0	.276	.024	3200	14.2	.276	.024	2700	11.0	.276	.024
8	.315	4000	20.5	.315	.024	2800	13.8	.315	.024	2400	10.2	.315	.024
10	.394	3200	17.7	.394	.024	2200	11.8	.394	.024	1900	9.1	.394	.024
Depth of Cut													

Workpiece Material		Hardened steel (45—55HRC)				Copper, Copper Alloy			
		AISI H13							
Dia. DC		Revolution	Feed rate	Depth of Cut	Width of Cut	Revolution	Feed rate	Depth of Cut	Width of Cut
(mm)	(inch)	(min ⁻¹)	(IPM)	ap	ae	(min ⁻¹)	(IPM)	ap	ae
3	.118	5000	4.7	.118	.008	13000	30.7	.118	.024
4	.157	4000	4.7	.157	.008	9500	29.9	.157	.024
5	.197	3200	4.7	.197	.008	7600	29.9	.197	.024
6	.236	2700	4.7	.236	.008	6400	30.3	.236	.024
7	.276	2300	4.3	.276	.008	5500	26.8	.276	.024
8	.315	2000	4.3	.315	.008	4800	24.4	.315	.024
10	.394	1600	3.9	.394	.008	3800	20.9	.394	.024
Depth of Cut									

Note 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.

Note 2) If the depth of cut is shallow, the revolution and feed rate can be increased.

Note 3) When drilling, please set the feed rate at 1/3 or below the values above.

Note 4) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.

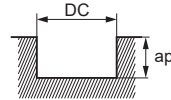
Recommended Cutting Conditions

Slotting

(inch)

Workpiece Material		Carbon steel, Cast iron, Alloy steel (—30HRC)			Alloy steel, Tool steel, Pre-hardened steel			Austenitic stainless steel, Titanium alloy		
		AISI 1050, AISI No 35 B, AISI P20			AISI H13, AISI W1-10, AISI P21			AISI 304, AISI 306, Ti-6Al-4V		
Dia. DC		Revolution (min ⁻¹)	Feed rate (IPM)	Depth of Cut ap	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of Cut ap	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of Cut ap
(mm)	(inch)									
3	.118	10000	23.6	.024	7000	15.7	.024	6000	11.8	.024
4	.157	7500	23.6	.024	5200	15.7	.024	4500	11.8	.024
5	.197	6000	23.6	.024	4200	15.7	.024	3600	11.8	.024
6	.236	5000	23.6	.024	3500	15.7	.024	3000	11.8	.024
7	.276	4500	22.0	.024	3200	14.2	.024	2700	11.0	.024
8	.315	4000	20.5	.024	2800	13.8	.024	2400	10.2	.024
10	.394	3200	17.7	.024	2200	11.8	.024	1900	9.1	.024

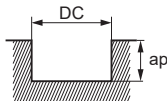
Depth of Cut



DC: Dia.

Workpiece Material		Hardened steel (45—55HRC)			Copper, Copper Alloy		
		AISI H13					
Dia. DC		Revolution (min ⁻¹)	Feed rate (IPM)	Depth of Cut ap	Revolution (min ⁻¹)	Feed rate (IPM)	Depth of Cut ap
(mm)	(inch)						
3	.118	5000	4.7	.008	13000	30.7	.024
4	.157	4000	4.7	.008	9500	29.9	.024
5	.197	3200	4.7	.008	7600	29.9	.024
6	.236	2700	4.7	.008	6400	30.3	.024
7	.276	2300	4.3	.008	5500	26.8	.024
8	.315	2000	4.3	.008	4800	24.4	.024
10	.394	1600	3.9	.008	3800	20.9	.024

Depth of Cut



DC: Dia.

Note 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.

Note 2) If the depth of cut is shallow, the revolution and feed rate can be increased.

Note 3) When drilling, please set the feed rate at 1/3 or below the values above.

Note 4) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.