Identification

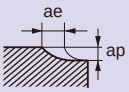
Use by multiplying the recommended cutting condition on the next page by the correction factor by overhang length.
Refer to each recommended condition for the long cutting and offset type.

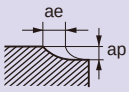
Work material	Carbon steel, Alloy steel, Mild Steel, Copper, Copper alloys				Pre-hardened steel, Carbon steel, Alloy steel, Alloy tool steel				Austenitic stainless steel, Ferritic, Precipitation hardening stainless steel, Titanium alloy			
L/D	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	ae (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	ae (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	ae (mm)
2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
4	80%	80%	90%	70%	80%	80%	90%	70%	80%	80%	90%	70%
5	60%	60%	80%	40%	60%	60%	80%	40%	60%	60%	80%	40%
6	50%	50%	70%	30%	50%	50%	70%	30%	50%	50%	70%	30%
7	40%	40%	70%	20%	40%	40%	70%	20%	30%	30%	60%	20%
8	40%	40%	60%	10%	40%	40%	60%	10%	30%	30%	50%	10%
9	30%	30%	60%	10%	30%	30%	60%	10%	20%	20%	50%	10%

Work material	Precipitation hardening stainless steel, Cobalt chromium alloy				Heat resistant alloys			
L/D	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	ae (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	ae (mm)
2	100%	100%	100%	100%	100%	100%	100%	100%
3	100%	100%	100%	100%	100%	100%	100%	100%
4	80%	80%	90%	70%	80%	80%	90%	70%
5	60%	60%	80%	40%	60%	60%	80%	40%
6	50%	50%	70%	30%	50%	50%	70%	30%
7	30%	30%	60%	20%	30%	30%	60%	20%
8	30%	30%	50%	10%	30%	30%	50%	10%
9	20%	20%	50%	10%	20%	20%	50%	10%

Recommended Cutting Conditions

Side milling

Work material	Carbon steel, Alloy steel, Mild Steel, Copper, Copper alloys						Pre-hardened steel, Carbon steel, Alloy steel, Alloy tool steel						Hardened steel,Precipitation hardening stainless steel, Ferritic, Precipitation hardening stainless steel,					
DC (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	Vf (mm/min)	ap (mm)	ae (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	Vf (mm/min)	ap (mm)	ae (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	Vf (mm/min)	ap (mm)	ae (mm)
10	150	4800	0.4	7700	0.5	6	135	4300	0.4	6900	0.5	6	120	3800	0.3	4600	0.5	6
12	150	4000	0.45	7200	0.6	7.2	135	3600	0.45	6500	0.6	7.2	120	3200	0.3	3800	0.6	7.2
16	150	3000	0.5	6000	0.8	9.6	135	2700	0.5	5400	0.8	9.6	120	2400	0.4	3800	0.8	9.6
20	150	2400	0.5	4800	1	12	135	2100	0.5	4200	1	12	120	1900	0.4	3000	1	12
25	150	1900	0.5	3800	1.25	15	135	1700	0.5	3400	1.25	15	120	1500	0.4	2400	1.25	15
Depth of cut	 DC:Dia.																	

Work material	Austenitic stainless steel, Titanium alloy, Cobalt chromium alloy						Heat resistant alloys					
DC (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	Vf (mm/min)	ap (mm)	ae (mm)	Vc (m/min)	n (min^{-1})	fz (mm/tooth)	Vf (mm/min)	ap (mm)	ae (mm)
10	40	1300	0.2	1000	0.5	6	25	800	0.1	320	0.5	6
12	40	1100	0.2	880	0.6	7.2	25	660	0.1	260	0.6	7.2
16	40	800	0.3	960	0.8	9.6	25	500	0.15	300	0.8	9.6
20	40	640	0.3	770	1	12	25	400	0.15	240	1	12
25	40	510	0.3	610	1.25	15	25	320	0.15	190	1.25	15
Depth of cut	 DC:Dia.											

1) For stainless steel, titanium alloy and heat resistant alloy, the use of water-soluble coolant is effective.
2) If the depth of cut is shallow, the revolution and feed rate can be increased.
3) The irregular helix flute end mill has a large effect on controlling vibration when compared to standard end mills. However, if the rigidity of the machine or the workpiece installation is poor, vibration or abnormal sound can occur. In this case, please reduce the revolution and feed rate proportionately, or set a lower depth of cut.
4) Reduce the feed by 1/2 for ramping process.