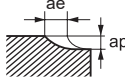


Recommended Cutting Conditions

Large Depth of Cut Conditions

(inch)

Workpiece Material				Titanium Alloys					Cobalt Chromium Alloys				
				Ti-6Al-4V ELI, ASTM F136, etc.					ASTM F75: Casting, F1537: Wrought Bar, F799: Forgings, etc.				
DC		LU		Revolution	Cutting Speed	Feed Rate	Depth of cut	Width of cut	Revolution	Cutting Speed	Feed Rate	Depth of cut	Width of cut
(mm)	(inch)	(mm)	(inch)	n (min ⁻¹)	vc (SFM)	vf (IPM)	ap	ae	n (min ⁻¹)	vc (SFM)	vf (IPM)	ap	ae
1	.039	8	.315	2500	25	19.7	.001	.004	2500	25	19.7	.001	.004
1	.039	12	.472	2500	25	13.8	.001	.004	2500	25	13.8	.001	.004
2	.079	12	.472	4800	100	23.6	.003	.012	4800	100	23.6	.003	.012
2	.079	16	.630	4800	100	13.4	.003	.012	4800	100	13.8	.003	.012
3	.118	10	.394	8500	260	94.5	.007	.051	6400	195	86.6	.007	.051
3	.118	18	.709	8500	260	78.7	.007	.051	6400	195	63.0	.007	.051
4	.157	12	.472	6400	260	78.7	.010	.067	4800	195	70.9	.009	.067
4	.157	20	.787	6400	260	78.7	.010	.067	4800	195	70.9	.009	.067
Depth of Cut													

Note 1) SMART MIRACLE coating has very low electrical conductivity; therefore, an external contact type of tool setter (electric transmitted) may not work.

When measuring the tool length, please use an internal contact type (non-electricity type) or a laser tool setter.

Note 2) When cutting titanium alloys, the use of water-soluble cutting fluid is effective.

Note 3) If the depth of cut is smaller, the revolution and the feed rate can be increased.

Note 4) The irregular helix 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 sound can occur.

In this case, please reduce the revolution and the feed rate proportionately, or set a lower depth of cut.