

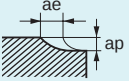
IMPACT MIRACLE END MILLS

VFHV RB

Corner radius, Short cut length, 4 flute, Irregular helix flutes

CARBIDE

SOLID END MILLS

Work material				Carbon steel, Cast iron, Alloy steel (—30HRC)				Alloy steel, Tool steel, Pre-hardened steel				Hardened steel (45—55HRC)				Hardened steel (55—62HRC)			
				Cf53, GG25				X40CrMoV51				X40CrMoV51				X210Cr12			
Dia. (mm)	Corner R (mm)	Taper angle one side	Neck length (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)	Depth of cut ae (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)	Depth of cut ae (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)	Depth of cut ae (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)	Depth of cut ae (mm)
4	1	0.4°	25	10000	9900	0.24	1.5	8300	7000	0.19	1.5	6700	5600	0.14	1.5	5000	2500	0.07	1.5
4	1	0.4°	30	10000	9900	0.24	1.5	8300	7000	0.19	1.5	6700	5600	0.14	1.5	5000	2500	0.07	1.5
4	1	0.4°	35	10000	9900	0.15	1.5	8300	7000	0.12	1.5	6700	5600	0.09	1.5	5000	2500	0.04	1.5
4	1	0.4°	40	10000	9900	0.15	1.5	8300	7000	0.12	1.5	6700	5600	0.09	1.5	5000	2500	0.04	1.5
4	1	0.4°	45	10000	9900	0.15	1.5	8300	7000	0.12	1.5	6700	5600	0.09	1.5	5000	2500	0.04	1.5
4	1	0.4°	50	8100	6300	0.14	1.5	6700	4420	0.11	1.5	5400	3500	0.08	1.5	4000	1600	0.04	1.5
4	1	0.9°	25	10000	9900	0.24	1.5	8300	7000	0.19	1.5	6700	5600	0.14	1.5	5000	2500	0.07	1.5
4	1	0.9°	30	10000	9900	0.15	1.5	8300	7000	0.12	1.5	6700	5600	0.09	1.5	5000	2500	0.04	1.5
4	1	0.9°	40	10000	9900	0.15	1.5	8300	7000	0.12	1.5	6700	5600	0.09	1.5	5000	2500	0.04	1.5
4	1	0.9°	50	8100	6300	0.14	1.5	6700	4420	0.11	1.5	5400	3500	0.08	1.5	4000	1600	0.04	1.5
4	1	0.9°	60	8100	6300	0.11	1.5	6700	4420	0.08	1.5	5400	3500	0.06	1.5	4000	1600	0.03	1.5
6	1.5	0.9°	40	6600	11000	0.4	2	5500	7600	0.32	2	4500	6100	0.24	2	3300	2700	0.12	2
6	1.5	0.9°	50	6600	11000	0.4	2	5500	7600	0.32	2	4500	6100	0.24	2	3300	2700	0.12	2
6	1.5	0.9°	60	6600	11000	0.25	2	5500	7600	0.2	2	4500	6100	0.15	2	3300	2700	0.08	2
6	1.5	0.9°	70	5400	8700	0.23	2	4400	6200	0.18	2	3600	5000	0.14	2	2700	2200	0.07	2
8	2	0.9°	60	5000	11000	0.48	3	4200	7600	0.37	3	3300	6100	0.29	3	2500	2700	0.14	3
8	2	0.9°	80	5000	11000	0.3	3	4200	7600	0.23	3	3300	6100	0.18	3	2500	2700	0.09	3
10	2	0.9°	80	4000	11000	0.48	4.5	3300	7600	0.37	4.5	2700	6100	0.29	4.5	2000	2700	0.14	4.5
10	2	0.9°	120	3200	8700	0.27	4.5	2700	6200	0.21	4.5	2100	5000	0.16	4.5	1600	2200	0.08	4.5
12	2	0.9°	80	3300	10000	0.72	6	2700	7100	0.56	6	2200	5600	0.36	6	1700	2500	0.18	6
12	2	0.9°	120	3300	10000	0.45	6	2700	7100	0.35	6	2200	5600	0.23	6	1700	2500	0.12	6
Depth of cut																			

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

2) Air blow or oil mist is recommended for good chip evacuation.

3) For profile machining such as moulds, machining conditions may differ considerably depending on the workpiece geometry, machining methods and depth of cut. Reduce the feed rate especially when machining the corner sections of a workpiece.

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 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.