

IMPACT MIRACLE END MILLS

VF4MB

Ball nose, Medium cut length, 4 flute

CARBIDE

RECOMMENDED CUTTING CONDITIONS

R (mm)	Hardened steel (45—55HRC)					Hardened steel (55—62HRC)					Hardened steel (62—70HRC)				
	X40CrMoV51					X210Cr12					070M55, 1.3343 (W6Mo5Cr4V2)				
	$\alpha \leq 15^\circ$		$\alpha > 15^\circ$		Depth of cut (mm)	$\alpha \leq 15^\circ$		$\alpha > 15^\circ$		Depth of cut (mm)	$\alpha \leq 15^\circ$		$\alpha > 15^\circ$		Depth of cut (mm)
	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)		Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)		Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	
R0.5	40000	8000	40000	3800	0.06	40000	5600	40000	3100	0.05	40000	4700	32000	1700	0.03
R1	40000	9600	40000	5600	0.11	40000	8000	28000	3100	0.10	24000	5000	16000	1200	0.06
R1.5	40000	12000	32000	5600	0.13	32000	7700	19000	2900	0.12	16000	4200	11000	1100	0.07
R2	32000	11000	24000	4700	0.15	24000	6200	14000	2500	0.13	12000	3100	8000	1000	0.08
R2.5	25000	9000	19000	3800	0.20	19000	5300	12000	2200	0.15	9600	2700	6000	780	0.08
R3	21000	8400	15000	3400	0.25	16000	4800	9600	2000	0.20	8000	2300	5000	780	0.09
R4	16000	6400	12000	2600	0.30	12000	3600	7200	1600	0.20	6000	1900	4000	620	0.09
R5	13000	5200	9600	2200	0.50	10000	3200	5800	1300	0.20	4800	1500	3000	550	0.10
R6	9000	3600	7200	1700	0.50	7000	2200	4300	940	0.30	3600	1100	2200	400	0.10
Depth of cut															

R:Radius

- 1) α is the inclination angle of the machined surface.
- 2) If the depth of cut is shallow, the revolution and feed rate can be increased.
- 3) 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.

