

# MSTAR END MILLS

CARBIDE

## MS2SB

Ball nose end mill, Short cut length, 2 flute

## MS2MB

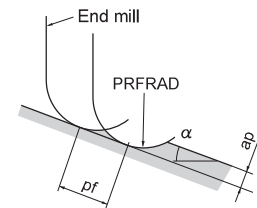
Ball nose end mill, Medium cut length, 2 flute

### RECOMMENDED CUTTING CONDITIONS

R PRFRAD (mm)	Carbon steel, Cast iron, Alloy steel, Pre-hardened steel AISI 1050, AISI No 35 B, AISI P20, AISI P21				Hardened steel (45–55HRC) AISI H13					
	$\alpha \leq 15^\circ$		$\alpha > 15^\circ$		Depth of cut (mm)	$\alpha \leq 15^\circ$		$\alpha > 15^\circ$		Depth of cut (mm)
	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)		Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	
<b>R 0.1</b>	40000	300	40000	250	0.003	40000	300	40000	250	0.003
<b>R 0.15</b>	40000	500	40000	350	0.007	40000	500	40000	350	0.007
<b>R 0.2</b>	40000	1600	40000	1200	0.02	40000	1300	40000	950	0.015
<b>R 0.25</b>	40000	2400	40000	1400	0.025	40000	1900	40000	1100	0.020
<b>R 0.3</b>	40000	3200	40000	1600	0.03	40000	2500	40000	1300	0.025
<b>R 0.4</b>	40000	4800	40000	2400	0.05	40000	4000	40000	1900	0.04
<b>R 0.5</b>	40000	5600	40000	3200	0.06	40000	5600	40000	3000	0.05
<b>R 0.75</b>	40000	6500	40000	4000	0.09	40000	6500	32000	3200	0.08
<b>R 1</b>	40000	6500	39000	4700	0.11	40000	6500	31000	3500	0.11
<b>R 1.25</b>	40000	7000	33000	4500	0.12	36000	6500	26000	3500	0.12
<b>R 1.5</b>	40000	7500	27000	4300	0.13	32000	6000	22000	3400	0.13
<b>R 2</b>	32000	7500	20000	3600	0.15	25000	6000	16000	2700	0.15
<b>R 2.5</b>	25000	6000	16000	2900	0.20	20000	5400	13000	2300	0.20
<b>R 3</b>	21000	5800	13000	2600	0.25	17000	4700	10000	2000	0.25
<b>R 4</b>	16000	4500	10000	2000	0.30	13000	3600	8000	1500	0.30
<b>R 5</b>	13000	3600	8000	1700	0.50	10000	2900	6400	1200	0.50
<b>R 6</b>	9000	2500	6000	1300	0.50	7200	2000	4800	1000	0.50

PRFRAD: Radius

- 1)  $\alpha$  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.



SOLID END MILLS