



MESB

ULTRA CARBIDE END MILLS

Ball Nose- Power Cutting

HIGH-EFFICIENCY CUTTING!

High Cutting Performance

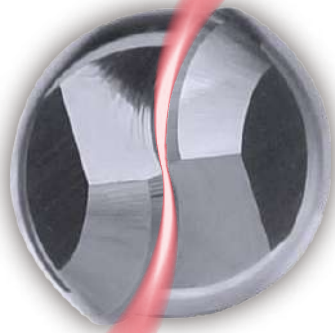
Extended Tool Life

Superior Workpiece Quality

S-shaped
Cutting Edge

Stronger Edges





S-shaped Cutting Edge

Stronger cutting edge design effectively reduces cutting resistance !



MESB

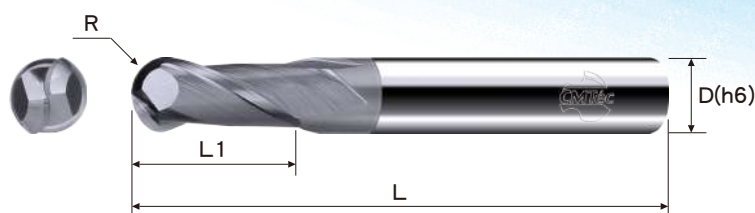
Features :

- ① Cutting edges and workpiece reduce contact area, lower cutting resistance and boost efficiency.
- ② Cutting edges distribute cutting forces evenly, reducing wear and extending tool life.
- ③ Minimizes vibration during machining, improving surface finish and precision.
- ④ For copy milling alloy steel, hardened steel ($\leq 60^{\circ}\text{HRC}$), stainless steel and cast iron.



ULTRA CARBIDE END MILLS- Ball Nose- Power Cutting

R	Tolerance
$R \leq 3$	± 0.01
$R > 3$	± 0.015
Bright Finishing	—
Finishing	◎
Semi Finishing	◎
Roughing	○

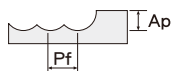


R	L1	L	D	Flutes	Coated Order No.
0.5R	2	50	4	2	MESBM20050A
0.75R	3	50	4	2	MESBM20075A
1.0R	4	50	4	2	MESBM20100A
1.25R	5	50	4	2	MESBM20125A
1.5R	6	50	4	2	MESBM20150A
1.75R	7	50	4	2	MESBM20175A
2.0R	8	50	4	2	MESBM20200A
1.0R	4	50	6	2	MESB20100A
1.25R	5	50	6	2	MESB20125A
1.5R	6	50	6	2	MESB20150A
2.0R	8	50	6	2	MESB20200A
2.5R	10	50	6	2	MESB20250A
3.0R	12	50	6	2	MESB20300A
3.5R	14	60	8	2	MESB20350A
4.0R	16	60	8	2	MESB20400A
5.0R	20	75	10	2	MESB20500A
6.0R	24	75	12	2	MESB20600A



CUTTING CONDITION TABLE

Material	Alloy Steels		Hardened Steels		Hardened Steels		Stainless Steels		Cast Iron	
Material Code	SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS410,SUS440		FC,FCD	
Hardness	HRC<45		HRC45~55		HRC55~60		HRC<45		HRC<45	
Vc	200m/min		150m/min		100m/min		100m/min		150m/min	
R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.5R	32,000	1,920	32,000	1,920	32,000	1,920	32,000	1,920	32,000	1,920
1.0R	32,000	2,560	32,000	2,560	16,000	1,280	16,000	1,280	32,000	2,560
2.0R	16,000	2,560	11,940	1,910	8,000	1,280	8,000	1,280	11,940	1,910
3.0R	10,500	2,520	8,000	1,920	5,300	1,270	5,300	1,270	8,000	1,920
4.0R	8,000	1,920	6,000	1,440	4,000	960	4,000	960	6,000	1,440
5.0R	6,350	1,530	4,800	1,150	3,200	770	3,200	770	4,800	1,150
6.0R	5,300	1,270	4,000	960	2,650	640	2,650	640	4,000	960
8.0R	4,000	1,040	3,000	780	2,000	520	2,000	520	3,000	780
10.0R	3,200	830	2,400	620	1,600	420	1,600	420	2,400	620
Cutting Amount (mm)	$A_p=0.05D$ $A_p(\text{Max})=0.6\text{mm} \downarrow$ $P_f=0.1D$		$A_p=0.03D$ $A_p(\text{Max})=0.5\text{mm} \downarrow$ $P_f=0.1D$		$A_p=0.05D$ $A_p(\text{Max})=0.6\text{mm} \downarrow$ $P_f=0.1D$		$A_p=0.05D$ $A_p(\text{Max})=0.6\text{mm} \downarrow$ $P_f=0.1D$			



※ Cutting Formula : $S = V_c \times 1000 / D / \pi (3.14)$ $F = f_z \times Z \times S$



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