

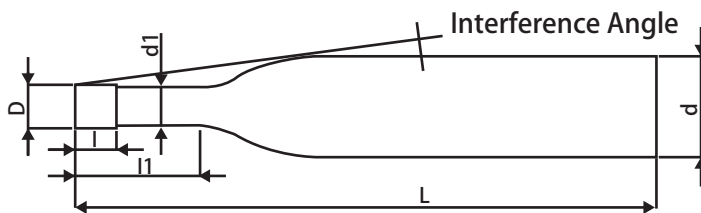


High Performance End Mill For Aluminium Alloy

NEW PRODUCT



- Optimal design for good chip disposability, high efficient processing is made possible.
- The excellent cutting surface design produces high efficient processing and reduces burr formation.
- Adopting the ultra micro grain carbide with wear-resistance, it realizes a long tool life in high-silicon aluminium alloy processing.



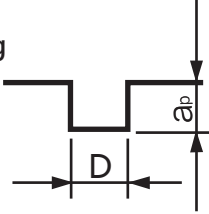
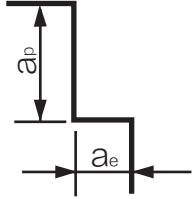
Application	Semi-Finishing/Finishing
Helix Angle	40°
D	0/-0.02
d	H6

Aluminum Endmill

Diameter D	Length of cut l	Neck Length l1	Neck Dia D1	Overall Length L	Shank Diameter d	No. of Flute N	Interference Angle	US dollar/Piece
1	2	3	0.96	50	4	2	8.41	\$7.58
1	2	5	0.96	50	4	2	7.04	\$7.58
1.5	3	4.5	1.44	50	4	2	7.11	\$7.58
2	4	6	1.92	50	4	3	5.25	\$7.58
2	4	10	1.92	50	4	3	3.85	\$7.58
2.5	5	7.5	2.4	50	4	3	3.65	\$7.58
3	6	9	2.88	50	4	3	4.44	\$7.58
3	6	15	2.88	50	4	3	3.68	\$7.58
3.5	7	10.5	3.35	50	4	3	3.36	\$7.58
4	8	12	—	50	4	3	—	\$7.58
4	8	20	—	60	4	3	—	\$8.97
4.5	9	13.5	4.38	50	6	3	2.72	\$8.81
5	10	15	4.85	50	6	3	2.72	\$10.05
5	10	25	4.85	60	6	3	1.04	\$11.13
6	12	18	—	60	6	3	—	\$10.51
6	12	30	—	80	6	3	—	\$14.07
8	16	24	—	80	8	3	—	\$16.23
8	16	40	—	80	8	3	—	\$16.85
10	20	30	—	90	10	3	—	\$23.65
10	20	50	—	90	10	3	—	\$24.89
12	24	36	—	80	12	3	—	\$28.29
12	24	60	—	110	12	3	—	\$35.56

Minimum order	50 pic
Ex Work	Hong Kong
Delivery time	7 - 14 days At receipt of order

Cutting Condition

Work Materials		Steel (35-45HRC)				Hardened Steels (45-55HRC)			
Radius of Ball Nose R	Neck Length	RPM (min-1)	Feed Rate			RPM (min-1)	Feed Rate		
			Vertical (mm/min)	Slotting (mm/min)	Side milling (mm/min)		Vertical (mm/min)	Slotting (mm/min)	Side milling (mm/min)
1	3	30000	150	900	1100	30000	150	540	860
1	5	22500	100	600	800	22500	100	400	600
1.5	4.5	30000	180	1350	1630	30000	180	820	1200
2	6	30000	225	1800	2150	30000	225	1100	1600
2	10	22500	150	1300	1500	22500	150	800	1100
2.5	7.5	25000	225	1900	2300	23400	220	1070	1550
3	9	21600	225	2000	2400	20200	225	1100	1600
3	15	16200	150	1400	1700	15200	150	800	1100
3.5	10.5	18500	270	2000	2400	17300	270	1100	1600
4	12	16200	300	2000	2400	15200	300	1100	1600
4	20	12200	200	1400	1700	11400	200	800	1100
4.5	13.5	14400	300	2000	2400	13500	300	1100	1600
5	15	12960	300	2000	2400	12200	300	1100	1600
5	25	9700	200	1400	1700	9200	200	800	1100
6	18	10800	300	2000	2400	10100	300	1100	1600
6	30	8100	200	1400	1700	7600	200	800	1100
8	24	11400	300	2200	2600	12000	250	1800	2400
8	40	8600	200	1500	1800	9000	160	1300	1700
10	30	9100	250	2200	2600	9600	250	1800	2400
10	50	6800	160	1500	1800	7200	160	1300	1700
12	36	7600	200	2200	2600	8000	250	1800	2400
12	60	5700	130	1500	1800	6000	160	1300	1700
			$A_p=0.75D$	$A_p=0.75D$	$A_p=0.75D$ $A_e=0.3D$		$A_p=0.75D$	$A_p=0.75D$	$A_p=0.75D$ $A_e=0.3D$
Depth of cut		Slotting		Side Milling					
									
		a_p : Axial Depth (mm) D : Outside Diameter (mm)		a_p : Axial Depth (mm) a_e : Radial Depth (mm)					

Note

Recommend using a non-contact measuring device to avoid damaging the sharp bottom corner
 Decrease both spindle speed and feed rate proportionally in case of chattering
 reduce the milling amount and feed rate in accordance with required milling precision.
 Recommend water solute coolant

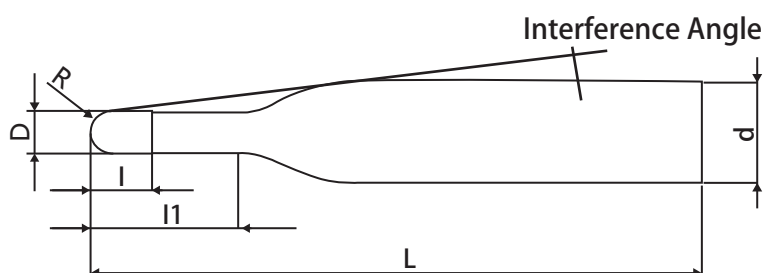


High Performance Micro Ballnose For Deep Machining

NEW PRODUCT



- Revolutionary neck design that provide addition rigidity for more stable machining and improve both resist breakage and suppress deflection.
- Special flute geometry improved stability in long overhang machining
- New cutting edge geometry which has excellent fracture resistance and decrease the cutting force.



Application	Semi-Finishing/Finishing
Hardness	30-55 HRC
Coating	nACo
Helix Angle	10°
R	± 0.005
D	0/-0.015
d	H6

Micro ballnose

Radius of Ball Nose R	Diameter D	Length of cut l	Neck Length l1	Neck Dia D1	Overall Length L	Shank Diameter d	No. of Flute N	Interference Angle	US dollar/Piece
0.25	0.5	0.35	4	0.47	50	4	2	8.27	\$9.12
0.25	0.5	0.35	6	0.47	50	4	2	7.1	\$9.12
0.3	0.6	0.4	4	0.57	50	4	2	8.22	\$9.12
0.3	0.6	0.4	8	0.57	50	4	2	6.16	\$9.12
0.5	1	0.8	3	0.96	50	4	2	8.84	\$8.35
0.5	1	0.8	4	0.96	50	4	2	8.02	\$8.35
0.5	1	0.8	6	0.96	50	4	2	6.77	\$8.35
0.5	1	0.8	8	0.96	50	4	2	5.85	\$8.35
0.5	1	0.8	10	0.96	50	4	2	5.15	\$8.35
0.5	1	0.8	12	0.96	50	4	2	4.6	\$6.35
0.5	1	0.8	16	0.96	50	4	2	3.79	\$8.81

Minimum order	50 pic
Ex Work	Hong Kong
Delivery time	7 - 14 days At receipt of order

Radius of Ball Nose R	Diameter D	Length of cut l	Neck Length l1	Neck Dia D1	Overall Length L	Shank Diameter d	No. of Flute N	Interference Angle	US dollar/Piece
0.5	1	0.8	20	0.96	60	4	2	3.23	\$9.28
0.75	1.5	1.35	8	1.44	50	4	2	5.39	\$8.35
0.75	1.5	1.35	12	1.44	50	4	2	4.14	\$8.35
0.75	1.5	1.5	20	1.44	60	4	2	2.84	\$9.28
1	2	1.7	6	1.92	50	4	2	5.78	\$8.35
1	2	1.7	8	1.92	50	4	2	4.81	\$8.35
1	2	1.7	10	1.92	50	4	2	4.12	\$8.35
1	2	1.7	12	1.92	50	4	2	3.62	\$8.35
1	2	1.7	16	1.92	50	4	2	2.88	\$8.35
1	2	1.7	20	1.92	60	4	2	2.4	\$8.97
1.5	3	2.5	10	2.88	50	4	2	3.43	\$8.35
2	4	3	16	–	50	4	2	–	\$8.81

Cutting Condition

Work Materials		Steel (35-45HRC)				Hardened Steels (45-55HRC)			
Radius of Ball Nose R	Neck Length	RPM (min-1)	Feed Rate (mm/min)	Ap (mm)	Ae (mm)	RPM (min-1)	Feed Rate (mm/min)	Ap (mm)	Ae (mm)
0.25	4	40000	700	0.016	0.048	29000	450	0.013	0.039
0.25	6	31000	550	0.01	0.031	29000	450	0.018	0.025
0.3	4	33000	690	0.019	0.058	24000	440	0.016	0.047
0.3	8	26000	540	0.012	0.036	24000	440	0.001	0.029
0.5	3	22000	770	0.08	0.24	16000	490	0.065	0.195
0.5	4	22000	770	0.056	0.168	16000	490	0.046	0.137
0.5	6	20000	710	0.032	0.096	14000	430	0.026	0.078
0.5	8	20000	710	0.032	0.096	14000	430	0.026	0.078
0.5	10	16000	560	0.02	0.06	14000	430	0.016	0.049
0.5	12	16000	560	0.02	0.06	14000	430	0.016	0.049
0.5	16	16000	570	0.012	0.036	14000	430	0.01	0.029
0.5	20	16000	570	0.008	0.024	14000	430	0.007	0.02
0.75	8	13000	690	0.048	0.144	9600	440	0.039	0.117
0.75	12	13000	690	0.048	0.144	9600	440	0.039	0.117
0.75	20	10000	530	0.03	0.091	9600	440	0.025	0.074
1	6	11000	750	0.16	0.48	8000	480	0.13	0.39
1	8	11000	750	0.112	0.336	8000	480	0.091	0.273
1	10	11000	750	0.112	0.336	8000	480	0.091	0.273
1	12	10000	690	0.064	0.192	7200	430	0.052	0.156
1	16	10000	690	0.064	0.192	7200	430	0.052	0.156
1	20	7800	540	0.04	0.12	7200	430	0.033	0.098
1.5	10	7400	950	0.168	0.504	5300	590	0.137	0.41
2	16	5600	900	0.224	0.672	4000	560	0.182	0.546

Note

- If the rigidity of the machine or the workpiece installation is very low, or chattering and noise are generated, please reduce the RPM and feed Rate proportionately, or reduce the depth of cut.
- If the depth of cut is shallow, the RPM and feed rate can be increased.
- Air blow or oil mist is strongly recommended for good chip evacuation.