

# Cylindrical end mills E-Cut Alu

Smooth-edged, medium length version, neck

Base-X  
**B**

$$l_2 = 2.2 \times d_1$$

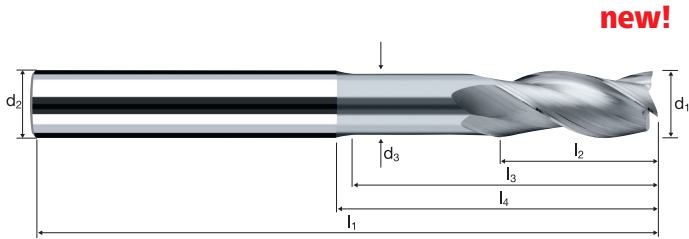
$$l_3 = 4.5 \times d_1$$

**HM**  
**MG10**     $\lambda$  **34°**  
                   $\gamma$  **24°**

**90°**    **G 2.5**

**Vario**

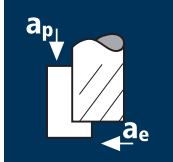









**Roughing**    **Finishing**



**ReTool®**

Material compatibility: Al Aluminium > 99%, Al Aluminium Alloy, Al Aluminium Cast, Cu Copper, Plastic Thermoplast

Ø Code	d <sub>1</sub> e8	d <sub>2</sub> h5	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	α	z	Example: Order-N°.	
										Coating	Article-N°.
										<b>8670</b>	
										<b>8570</b>	
<b>180</b>	3.00	6.00	2.80	57	6.60	13.50	16.83	5.3°	3	●	
<b>220</b>	4.00	6.00	3.70	60	9.00	18.00	20.54	3.0°	3	●	
<b>260</b>	5.00	6.00	4.60	63	11.00	22.50	24.22	1.4°	3	●	
<b>300</b>	6.00	6.00	5.50	65	13.50	27.00	28.85	0.0°	3	●	
<b>391</b>	8.00	8.00	7.40	76	18.00	36.00	38.37	0.0°	3	●	
<b>450</b>	10.00	10.00	9.20	90	22.00	45.00	48.01	0.0°	3	●	
<b>501</b>	12.00	12.00	11.00	105	27.00	54.00	57.71	0.0°	3	●	
<b>610</b>	16.00	16.00	15.00	125	36.00	72.00	76.27	0.0°	3	●	
<b>682</b>	20.00	20.00	19.00	145	44.00	90.00	94.77	0.0°	3	●	

Application	Material	$d_1$ [mm]	$z$	$v_c$ [m/min]	$f_z$ [mm]	$a_p$ [mm]	$a_e$ [mm]	$n$ [min <sup>-1</sup> ]	$v_f$ [mm/min]	$Q$ [cm <sup>3</sup> /min]
	<b>Wrought aluminium</b> <b>Construction aluminium</b> 	3.00	3	396	0.042	4.500	1.350	42000	5292	32.1
		4.00	3	475	0.056	6.000	1.800	37800	6350	68.6
		5.00	3	475	0.070	7.500	2.250	30240	6350	107.2
		6.00	3	475	0.084	9.000	2.700	25200	6350	154.3
		8.00	3	475	0.112	12.000	3.600	18900	6350	274.3
		10.00	3	475	0.140	15.000	4.500	15120	6350	428.7
		12.00	3	475	0.168	18.000	5.400	12600	6350	617.3
		16.00	3	475	0.179	24.000	7.200	9450	5080	877.9
		20.00	3	475	0.210	30.000	9.000	7560	4763	1286.0
		<b>Unalloyed copper</b> 	3.00	3	355	0.032	4.500	1.350	37665	3559
4.00	3		355	0.042	6.000	1.800	28250	3560	38.4	
5.00	3		355	0.053	7.500	2.250	22600	3560	60.1	
6.00	3		355	0.063	9.000	2.700	18835	3560	86.5	
8.00	3		355	0.084	12.000	3.600	14125	3560	153.8	
10.00	3		355	0.105	15.000	4.500	11300	3560	240.3	
12.00	3		355	0.126	18.000	5.400	9415	3559	345.9	
16.00	3		355	0.134	24.000	7.200	7065	2849	492.2	
20.00	3		355	0.158	30.000	9.000	5650	2670	720.8	
<b>Thermoplastics</b> 	3.00		3	396	0.050	4.500	1.350	42000	6350	38.6
	4.00	3	475	0.067	6.000	1.800	37800	7621	82.3	
	5.00	3	475	0.084	7.500	2.250	30240	7621	128.6	
	6.00	3	475	0.101	9.000	2.700	25200	7621	185.2	
	8.00	3	475	0.134	12.000	3.600	18900	7621	329.2	
	10.00	3	475	0.168	15.000	4.500	15120	7621	514.4	
	12.00	3	475	0.202	18.000	5.400	12600	7621	740.7	
	16.00	3	475	0.215	24.000	7.200	9450	6096	1053.5	
	20.00	3	475	0.252	30.000	9.000	7560	5715	1543.2	
	<b>Cast aluminium</b> 	3.00	3	380	0.042	4.500	1.350	40320	5080	30.9
4.00		3	380	0.056	6.000	1.800	30240	5080	54.9	
5.00		3	380	0.070	7.500	2.250	24190	5080	85.7	
6.00		3	380	0.084	9.000	2.700	20160	5080	123.5	
8.00		3	380	0.112	12.000	3.600	15120	5080	219.5	
10.00		3	380	0.140	15.000	4.500	12095	5080	342.9	
12.00		3	380	0.168	18.000	5.400	10080	5080	493.8	
16.00		3	380	0.179	24.000	7.200	7560	4064	702.3	
20.00		3	380	0.210	30.000	9.000	6050	3812	1029.1	
		<b>Wrought aluminium</b> <b>Construction aluminium</b> 	3.00	3	375	0.024	4.500	3.000	39790	2883
	4.00		3	375	0.032	6.000	4.000	29840	2883	69.2
	5.00		3	375	0.040	7.500	5.000	23875	2883	108.1
	6.00		3	375	0.048	9.000	6.000	19895	2883	155.7
	8.00		3	375	0.064	12.000	8.000	14920	2883	276.7
	10.00		3	375	0.081	15.000	10.000	11935	2882	432.3
	12.00		3	375	0.097	18.000	12.000	9945	2882	622.5
	16.00		3	375	0.103	24.000	16.000	7460	2306	885.5
	20.00		3	375	0.121	30.000	20.000	5970	2163	1297.6
	<b>Unalloyed copper</b> 		3.00	3	280	0.018	4.500	3.000	29710	1614
4.00		3	280	0.024	6.000	4.000	22280	1614	38.7	
5.00		3	280	0.030	7.500	5.000	17825	1614	60.5	
6.00		3	280	0.036	9.000	6.000	14855	1614	87.2	
8.00		3	280	0.048	12.000	8.000	11140	1614	155.0	
10.00		3	280	0.060	15.000	10.000	8915	1615	242.2	
12.00		3	280	0.072	18.000	12.000	7425	1614	348.6	
16.00		3	280	0.077	24.000	16.000	5570	1291	495.9	
20.00		3	280	0.091	30.000	20.000	4455	1210	726.2	
<b>Thermoplastics</b> 		3.00	3	375	0.029	4.500	3.000	39790	3459	46.7
	4.00	3	375	0.039	6.000	4.000	29840	3459	83.0	
	5.00	3	375	0.048	7.500	5.000	23875	3460	129.7	
	6.00	3	375	0.058	9.000	6.000	19895	3459	186.8	
	8.00	3	375	0.077	12.000	8.000	14920	3459	332.1	
	10.00	3	375	0.097	15.000	10.000	11935	3459	518.8	
	12.00	3	375	0.116	18.000	12.000	9945	3459	747.0	
	16.00	3	375	0.124	24.000	16.000	7460	2767	1062.6	
	20.00	3	375	0.145	30.000	20.000	5970	2595	1557.1	
	<b>Cast aluminium</b> 	3.00	3	300	0.024	4.500	3.000	31830	2306	31.1
4.00		3	300	0.032	6.000	4.000	23875	2306	55.4	
5.00		3	300	0.040	7.500	5.000	19100	2306	86.5	
6.00		3	300	0.048	9.000	6.000	15915	2306	124.5	
8.00		3	300	0.064	12.000	8.000	11935	2306	221.4	
10.00		3	300	0.081	15.000	10.000	9550	2306	345.9	
12.00		3	300	0.097	18.000	12.000	7960	2307	498.3	
16.00		3	300	0.103	24.000	16.000	5970	1845	708.6	
20.00		3	300	0.121	30.000	20.000	4775	1730	1037.8	