

CUTTING DATA

All Mastermill AL-HPC End Mills												
VDI MATERIAL GROUP		Type of cut		Size (mm)								
				3.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0	
N	21-24	Aluminium/Aluminium Alloys	SLOTTING	v_c (m/min)	488	488	488	488	488	488	488	488
				n	51778	25889	19427	15533	12945	9708	7767	6213
				f_z	0.025	0.076	0.095	0.114	0.152	0.168	0.191	0.254
	f (mm/min)	3946		5918	5537	5326	5918	4883	4439	4735		
	v_c (m/min)	183		183	183	183	183	183	183	183		
	n	19417		9708	7285	5825	4854	3641	2913	2330		
	f_z	0.025		0.076	0.095	0.114	0.152	0.168	0.191	0.254		
	f (mm/min)	1480		2219	2076	1997	2219	1831	1665	1775		
	v_c (m/min)	610		610	610	610	610	610	610	610		
	n	64756	32378	24283	19427	16189	12142	9713	7771			
	f_z	0.025	0.076	0.171	0.267	0.356	0.381	0.419	0.495			
	f (mm/min)	4857	7382	12457	15561	17290	13878	12210	11539			
	v_c (m/min)	244	244	244	244	244	244	244	244			
	n	25889	12945	9713	7767	6472	4854	3883	3107			
	f_z	0.025	0.076	0.095	0.114	0.152	0.168	0.191	0.254			
	f (mm/min)	1973	2959	2768	2663	2959	2441	2219	2367			
	v_c (m/min)	1000	1000	1000	1000	1000	1000	1000	1000			
	f_z	0.08	0.104	0.154	0.198	0.264	0.283	0.311	0.341			
	v_c (m/min)	360	360	360	360	360	360	360	360			
	f_z	0.08	0.104	0.154	0.198	0.264	0.283	0.311	0.341			
	v_c (m/min)	1000	1000	1000	1000	1000	1000	1000	1000			
	f_z	0.101	0.14	0.208	0.267	0.356	0.381	0.419	0.45			
	v_c (m/min)	360	360	360	360	360	360	360	360			
	f_z	0.101	0.14	0.208	0.267	0.356	0.381	0.419	0.45			
v_c (m/min)	1000	1000	1000	1000	1000	1000	1000	1000				
f_z	0.101	0.202	0.3	0.385	0.514	0.55	0.605	0.665				
v_c (m/min)	360	360	360	360	360	360	360	360				
f_z	0.101	0.202	0.3	0.385	0.514	0.55	0.605	0.665				

SLOTTING	SIDE CUTTING	DYNAMIC MACHINING NOT FOR USE WITH CHIPBREAKER

Recommended cutting depths are **maximum** depths, and **speeds and feeds are a starting point** based on these depths.

All recommendations are based on ideal machining conditions. Adjustments may need to be made according to your set-up.

For long series and long necked tools it may be necessary to reduce feed rate by up to 50%.

v_c - cutting speed (m/min)

n - RPM (rev/min)

f_z - feed per tooth (mm)

f - feed rate (mm/min)

a_p - axial depth of cut

a_e - radial depth of cut

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				3.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0	
N	26-27	Copper/ Copper Alloys	SLOTTING	v_c (m/min)	268	268	268	268	268	268	268	268
				n	28436	14218	11465	8531	7109	5332	4265	3412
				f_z	0.020	0.051	0.076	0.102	0.127	0.140	0.152	0.178
	f (mm/min)	1733		2167	2614	2600	2708	9311	6983	5586		
	v_c (m/min)	91		91	91	91	91	91	91	91		
	n	9655		4828	3623	2897	2414	1810	1448	1159		
	f_z	0.020		0.051	0.076	0.102	0.127	0.140	0.152	0.178		
	f (mm/min)	589		736	826	883	920	759	662	618		
	v_c (m/min)	351		351	351	351	351	351	351	351		
	n	37242	18621	13973	11173	9311	6983	5586	4469			
	f_z	0.020	0.051	0.076	0.102	0.127	0.140	0.152	0.178			
	f (mm/min)	2270	2838	3186	3405	3547	2927	2554	2384			
	v_c (m/min)	137	137	137	137	137	137	137	137			
	n	14536	7268	5454	4361	33634	2726	2180	1744			
	f_z	0.020	0.051	0.076	0.102	0.127	0.140	0.152	0.178			
	f (mm/min)	886	1108	1243	1329	1385	1142	997	930			
	v_c (m/min)	1000	1000	1000	1000	1000	1000	1000	1000			
	f_z	0.12	0.17	0.25	0.321	0.433	0.471	0.519	0.535			
	v_c (m/min)	560	560	560	560	560	560	560	560			
	f_z	0.06	0.085	0.125	0.16	0.217	0.245	0.264	0.288			
	v_c (m/min)	1000	1000	1000	1000	1000	1000	1000	1000			
	f_z	0.19	0.229	0.337	0.432	0.584	0.635	0.699	0.735			
	v_c (m/min)	560	560	560	560	560	560	560	560			
	f_z	0.08	0.114	0.168	0.216	0.292	0.33	0.356	0.388			
v_c (m/min)	1000	1000	1000	1000	1000	1000	1000	1000				
f_z	0.28	0.331	0.486	0.924	0.843	0.916	1.01	1.12				
v_c (m/min)	560	560	560	560	560	560	560	560				
f_z	0.11	0.165	0.252	0.312	0.421	0.476	0.514	0.55				

SLOTTING

SIDE CUTTING

DYNAMIC MACHINING
NOT FOR USE WITH CHIPBREAKER

10% - 1 x DC
5% - 1.5 x DC
2% - 2 x DC

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N 29.1	Plastics/ Acrylics	SLOTTING	v_c (m/min)	503	503	503	503	503	503	503	503
			n	53370	26685	20024	16011	13342	10007	8005	6404
			f_z	0.038	0.102	0.146	0.191	0.254	0.249	0.305	0.356
			f (mm/min)	6100	8134	8770	9150	10167	8388	320	6832
		SIDE CUTTING	v_c (m/min)	625	625	625	625	625	625	625	625
			n	66314	33157	24881	19894	16579	12434	9947	7958
			f_z	0.038	0.102	0.146	0.191	0.254	0.249	0.305	0.356
			f (mm/min)	7580	10106	10898	11370	12633	10422	9096	8489
		DYNAMIC 10% ae	v_c (m/min)	100	100	100	100	100	100	100	100
			f_z	0.18	0.29	0.41	0.512	0.586	0.611	0.64	0.688
		DYNAMIC 5% ae	v_c (m/min)	100	100	100	100	100	100	100	100
			f_z	0.25	0.391	0.552	0.69	0.789	0.864	0.92	1.015
		DYNAMIC 2% ae	v_c (m/min)	100	100	100	100	100	100	100	100
			f_z	0.35	0.564	0.797	0.996	1.139	1.340	1.55	1.764

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