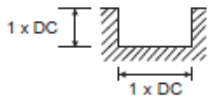
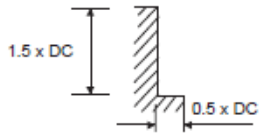
All Mastermill AL-HPC end mills

VDI 3323 MATERIAL GROUP			Type of cut		Size (mm)						
					3.0	6.0	10.0	12.0	16.0	20.0	25.0
N	21, 22, 23, 24	Aluminium alloys, <12% Silicon, 2024, 5052, 5086, 6061, 6063, 7075	SLOTTING	v_c (m/min)	488 (390-586)	488 (390-586)	488 (390-586)	488 (390-586)	488 (390-586)	488 (390-586)	488 (390-586)
				n (RPM)	51778	25889	15533	12945	9708	7767	6213
				f_z (mm/tooth)	0.025	0.076	0.114	0.152	0.168	0.191	0.254
				f (mm/min)	3946	5918	5326	5918	4883	4439	4735
			SIDE CUTTING	v_c (m/min)	610 (488-732)	610 (488-732)	610 (488-732)	610 (488-732)	610 (488-732)	610 (488-732)	610 (488-732)
				n (RPM)	64723	32361	19417	16181	12136	9708	7767
				f_z (mm/tooth)	0.025	0.076	0.114	0.152	0.168	0.191	0.254
				f (mm/min)	17080	22387	25621	28467	22876	20131	19033
			H.S.M.	v_c (m/min)	1006 (805-1207)	1006 (805-1207)	1006 (805-1207)	1006 (805-1207)	1006 (805-1207)	1006 (805-1207)	1006 (805-1207)
				n (RPM)	106740	53370	32022	26685	30014	16011	12809
				f_z (mm/tooth)	0.053	0.140	0.267	0.356	0.381	0.419	0.495
				f (mm/min)	17080	22367	25621	28467	22876	20131	19033
	25	Aluminium alloys, >12% Silicon, Die cast alloys, Aluminium Lithium alloy, A390, A392, B390 We recommend the use of NX coated tools only for materials in this group.	SLOTTING	v_c (m/min)	183 (146-220)	183 (146-220)	183 (146-220)	183 (146-220)	183 (146-220)	183 (146-220)	183 (146-220)
				n (RPM)	19417	9708	5825	4854	3641	2913	2330
				f_z (mm/tooth)	0.025	0.076	0.114	0.152	0.168	0.191	0.254
				f (mm/min)	1480	2219	1997	2219	1831	1665	1775
			SIDE CUTTING	v_c (m/min)	244 (195-293)	244 (195-293)	244 (195-293)	244 (195-293)	244 (195-293)	244 (195-293)	244 (195-293)
				n (RPM)	25889	12945	7767	6472	4854	3883	3107
				f_z (mm/tooth)	0.025	0.076	0.114	0.152	0.168	0.191	0.254
				f (mm/min)	1973	2959	2663	2959	2441	2219	2367
			H.S.M.	v_c (m/min)	366 (293-439)	366 (293-439)	366 (293-439)	366 (293-439)	366 (293-439)	366 (293-439)	366 (293-439)
				n (RPM)	38834	19417	11650	9708	7281	5825	4660
				f_z (mm/tooth)	0.053	0.140	0.267	0.356	0.381	0.419	0.495
				f (mm/min)	6214	8138	9321	10357	8323	7324	6924

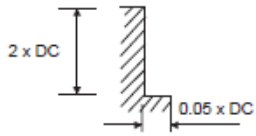
SLOTTING



SIDE CUTTING



H.S.M. (HIGH SPEED MACHINING)



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- **For long series and long necked tools,** reduce feed rate and depth of cut by up to 50%.
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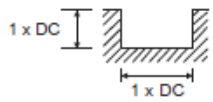
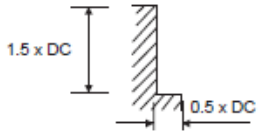
All Mastermill AL-HPC end mills

VDI 3323 MATERIAL GROUP			Type of cut		Size (mm)						
					3.0	6.0	10.0	12.0	16.0	20.0	25.0
N	26 27	Copper and Copper alloys, Brass, Bronze	SLOTTING	v_c (m/min)	268 (214-322)	268 (214-322)	268 (214-322)	268 (214-322)	268 (214-322)	268 (214-322)	268 (214-322)
				n (RPM)	28436	14218	8531	7109	5332	4265	3412
				f_z (mm/tooth)	0.020	0.051	0.102	0.127	0.140	0.152	0.178
				f (mm/min)	1733	2167	2600	2708	9311	6983	5586
			SIDE CUTTING	v_c (m/min)	351 (281-421)	351 (281-421)	351 (281-421)	351 (281-421)	351 (281-421)	351 (281-421)	351 (281-421)
				n (RPM)	37242	18621	11173	9311	6983	5586	4469
				f_z (mm/tooth)	0.020	0.051	0.102	0.127	0.140	0.152	0.178
				f (mm/min)	2270	2838	3405	3547	2927	2554	2384
			H.S.M.	v_c (m/min)	564 (451-677)	564 (451-677)	564 (451-677)	564 (451-677)	564 (451-677)	564 (451-677)	564 (451-677)
				n (RPM)	59842	29921	17953	14961	11220	8976	7181
				f_z (mm/tooth)	0.043	0.114	0.216	0.292	0.330	0.356	0.406
				f (mm/min)	7752	10260	11628	16110	11115	9576	8755
	28	Copper alloys, Beryllium copper, Manganese bronze, C110	SLOTTING	v_c (m/min)	91 (73-109)	91 (73-109)	91 (73-109)	91 (73-109)	91 (73-109)	91 (73-109)	91 (73-109)
				n (RPM)	9655	4828	2897	2414	1810	1448	1159
				f_z (mm/tooth)	0.020	0.051	0.102	0.127	0.140	0.152	0.178
				f (mm/min)	589	736	883	920	759	662	618
			SIDE CUTTING	v_c (m/min)	137 (110-164)	137 (110-164)	137 (110-164)	137 (110-164)	137 (110-164)	137 (110-164)	137 (110-164)
				n (RPM)	14536	7268	4361	33634	2726	2180	1744
				f_z (mm/tooth)	0.020	0.051	0.102	0.127	0.140	0.152	0.178
				f (mm/min)	886	1108	1329	1385	1142	997	930
			H.S.M.	v_c (m/min)	229 (183-275)	229 (183-275)	229 (183-275)	229 (183-275)	229 (183-275)	229 (183-275)	229 (183-275)
				n (RPM)	24298	12149	7289	6074	4556	3645	2916
				f_z (mm/tooth)	0.043	0.114	0.216	0.292	0.330	0.356	0.406
				f (mm/min)	3148	4166	4721	5323	4513	3888	3555

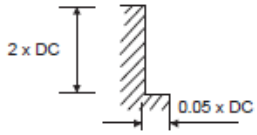
SLOTTING



SIDE CUTTING



H.S.M. (HIGH SPEED MACHINING)



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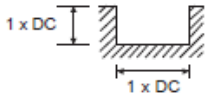
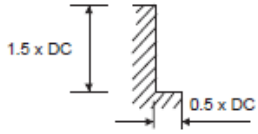
					3.0	6.0	10.0	12.0	16.0	20.0	25.0
N	29.1	Thermoplastics, Thermosetting plastics, Acrylics, ABS, PVC, Polycarbonate, Polycarbolene	SLOTTING	v_c (m/min)	503 (402-604)	503 (402-604)	503 (402-604)	503 (402-604)	503 (402-604)	503 (402-604)	503 (402-604)
				n (RPM)	53370	26685	16011	13342	10007	8005	6404
				f_z (mm/tooth)	0.038	0.102	0.191	0.254	0.249	0.305	0.356
				f (mm/min)	6100	8134	9150	10167	8388	320	6832
			SIDE CUTTING	v_c (m/min)	625 (500-750)	625 (500-750)	625 (500-750)	625 (500-750)	625 (500-750)	625 (500-750)	625 (500-750)
				n (RPM)	66314	33157	19894	16579	12434	9947	7958
				f_z (mm/tooth)	0.038	0.102	0.191	0.254	0.249	0.305	0.356
				f (mm/min)	7580	10106	11370	12633	10422	9096	8489
			H.S.M.	v_c (m/min)	1021 (817-1225)	1021 (817-1225)	1021 (817-1225)	1021 (817-1225)	1021 (817-1225)	1021 (817-1225)	1021 (817-1225)
				n (RPM)	10831	54166	32499	27083	20312	16250	13000
				f_z (mm/tooth)	0.086	0.229	0.432	0.584	0.635	0.699	0.813
				f (mm/min)	28066	37147	42100	47465	38695	34051	31699

SLOTTING



SIDE CUTTING



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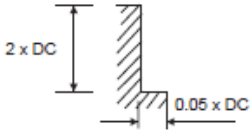

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