



Series 44M Metric	Hardness	Ae x DC	Ap x DC	Vc (m/min)	DC • mm								
					3	6	10	12	16	20	25		
ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6073, 7075	≤ 150 Bhn or ≤ 7HRc	Slot 	1	≤ 1	490 (392-588)	RPM	52022	26011	15607	13005	9754	7803	6243
						Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213
						Feed (mm/min)	2247	3121	3746	3745	3246	2913	2653
		Profile 	≤ 0.5	≤ 1.5	610 (488-732)	RPM	64762	32381	19429	16190	12143	9714	7771
						Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213
						Feed (mm/min)	2797	3885	4663	4662	4041	3627	3303
		HSM 	≤ 0.05	≤ 2	1005 (804-1206)	RPM	106698	53349	32009	26674	20006	16005	12804
						Fz	0.050	0.132	0.280	0.336	0.384	0.440	0.488
						Feed (mm/min)	10754	14083	17925	17924	15364	14084	12484
ALUMINUM DIE CAST (HIGH SILICONE) A-390, A-392, B-390	≤ 125 Bhn or ≤ 77 HRb	Slot 	1	≤ 1	185 (148-222)	RPM	19641	9820	5892	4910	3683	2946	2357
						Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213
						Feed (mm/min)	848	1178	1414	1414	1226	1100	1002
		Profile 	≤ 0.5	≤ 1.5	230 (184-276)	RPM	24418	12209	7326	6105	4578	3663	2930
						Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213
						Feed (mm/min)	1055	1465	1758	1758	1524	1367	1245
		HSM 	≤ 0.05	≤ 2	380 (304-456)	RPM	40343	20172	12103	10086	7564	6052	4841
						Fz	0.050	0.132	0.280	0.336	0.384	0.440	0.488
						Feed (mm/min)	4066	5325	6778	6777	5809	5325	4720
COPPER ALLOYS Aluminum Bronze Brass Naval Brass Red Brass	≤ 140 Bhn or ≤ 3 HRc	Slot 	1	≤ 1	265 (212-318)	RPM	28134	14067	8440	7034	5275	4220	3376
						Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175
						Feed (mm/min)	1080	1350	1801	1688	1485	1350	1182
		Profile 	≤ 0.5	≤ 1.5	330 (264-396)	RPM	35035	17518	10511	8759	6569	5255	4204
						Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175
						Feed (mm/min)	1345	1682	2242	2102	1850	1682	1472
		HSM 	≤ 0.05	≤ 2	545 (436-654)	RPM	57861	28930	17358	14465	10849	8679	6943
						Fz	0.041	0.108	0.227	0.276	0.320	0.373	0.400
						Feed (mm/min)	4721	6248	7869	7984	6943	6480	5555
COPPER ALLOYS Beryllium Copper C110, Manganese Bronze, Tin Bronze	≤ 200 Bhn or ≤ 23 HRc	Slot 	1	≤ 1	105 (84-126)	RPM	11148	5574	3344	2787	2090	1672	1338
						Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175
						Feed (mm/min)	428	535	713	669	589	535	468
		Profile 	≤ 0.5	≤ 1.5	130 (104-156)	RPM	13802	6901	4141	3450	2588	2070	1656
						Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175
						Feed (mm/min)	530	662	883	828	729	662	580
		HSM 	≤ 0.05	≤ 2	215 (172-258)	RPM	22826	11413	6848	5706	4280	3424	2739
						Fz	0.041	0.108	0.227	0.276	0.320	0.373	0.400
						Feed (mm/min)	1862	2465	3104	3150	2739	2556	2191
PLASTICS ABS, Polycarbonate, PVC, Polypropylene		Slot 	1	≤ 1	490 (392-588)	RPM	52022	26011	15607	13005	9754	7803	6243
						Fz	0.036	0.096	0.200	0.240	0.282	0.320	0.350
						Feed (mm/min)	3745	4994	6243	6242	5493	4994	4370
		Profile 	≤ 0.5	≤ 1.5	610 (488-732)	RPM	64762	32381	19429	16190	12143	9714	7771
						Fz	0.036	0.096	0.200	0.240	0.282	0.320	0.350
						Feed (mm/min)	4662	6217	7771	7771	6839	6217	5440
		HSM 	≤ 0.05	≤ 2	1005 (804-1206)	RPM	106698	53349	32009	26674	20006	16005	12804
						Fz	0.082	0.216	0.453	0.552	0.640	0.733	0.800
						Feed (mm/min)	17412	23045	29022	29446	25607	23473	20487

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B) HSM (High Speed Machining)
 $rpm = (Vc \times 1000) / (DC \times 3.14)$
 $mm/min = Fz \times 2 \times rpm$
 reduce speed and feed for materials harder than listed
 reduce cut depth and feed by 50% for long flute and long reach tools
 reduce feed and Ae when finish milling (.02 x DC maximum)
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)