



Series 45 Fractional	Hardness	Ae x DC	Ap x DC	Vc (sfm)	DC • in								
					1/4	3/8	1/2	5/8	3/4	1			
ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6073, 7075	≤ 150 Bhn or ≤ 7 HRc	Slot 	1	≤ 1	1600	RPM	24448	16299	12224	9779	8149	6112	
					(1280-1920)	Fz	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085	
					Feed (ipm)	122	147	147	127	114	104		
		Profile 	≤ 0.5	≤ 1.5	2000	RPM	30560	20373	15280	12224	10187	7640	
					(1600-2400)	Fz	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085	
					Feed (ipm)	153	183	183	159	143	130		
	HSM 	≤ 0.05	≤ 2	3300	RPM	50424	33616	25212	20170	16808	12606		
				(2640-3960)	Fz	0.0055	0.0105	0.0140	0.0150	0.0165	0.0195		
				Feed (ipm)	555	706	706	605	555	492			
	ALUMINUM DIE CAST ALLOYS (HIGH SILICONE) A-390, A-392, B- 390	≤ 125 Bhn or ≤ 77 HRb	Slot 	1	≤ 1	600	RPM	9168	6112	4584	3667	3056	2292
						(480-720)	Fz	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085
						Feed (ipm)	46	55	55	48	43	39	
Profile 			≤ 0.5	≤ 1.5	750	RPM	11460	7640	5730	4584	3820	2865	
					(600-900)	Fz	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085	
					Feed (ipm)	57	69	69	60	53	49		
HSM 		≤ 0.05	≤ 2	1240	RPM	18947	12631	9474	7579	6316	4737		
				(992-1488)	Fz	0.0055	0.0105	0.0140	0.0150	0.0165	0.0195		
				Feed (ipm)	208	265	265	227	208	185			
COPPER ALLOYS Aluminum Bronze Brass Naval Brass Red Brass		≤ 140 Bhn or ≤ 3 HRc	Slot 	1	≤ 1	865	RPM	13217	8811	6609	5287	4406	3304
						(692-1038)	Fz	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070
						Feed (ipm)	53	70	66	58	53	46	
	Profile 		≤ 0.5	≤ 1.5	1080	RPM	16502	11002	8251	6601	5501	4126	
					(864-1296)	Fz	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070	
					Feed (ipm)	66	88	83	73	66	58		
	HSM 	≤ 0.05	≤ 2	1780	RPM	27198	18132	13599	10879	9066	6800		
				(1424-2136)	Fz	0.0045	0.0085	0.0115	0.0125	0.0140	0.0160		
				Feed (ipm)	245	308	313	272	254	218			
	COPPER ALLOYS Beryllium Copper C110, Manganese Bronze, Tin Bronze	≤ 200 Bhn or ≤ 23 HRc	Slot 	1	≤ 1	345	RPM	5272	3514	2636	2109	1757	1318
						(276-414)	Fz	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070
						Feed (ipm)	21	28	26	23	21	18	
Profile 			≤ 0.5	≤ 1.5	430	RPM	6570	4380	3285	2628	2190	1643	
					(344-516)	Fz	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070	
					Feed (ipm)	26	35	33	29	26	23		
HSM 		≤ 0.05	≤ 2	710	RPM	10849	7233	5424	4340	3616	2712		
				(568-852)	Fz	0.0045	0.0085	0.0115	0.0125	0.0140	0.0160		
				Feed (ipm)	98	123	125	108	101	87			
PLASTICS ABS, Polycarbonate, PVC, Polypropylene			Slot 	1	≤ 1	1600	RPM	24448	16299	12224	9779	8149	6112
						(1280-1920)	Fz	0.0040	0.0075	0.0100	0.0110	0.0120	0.0140
						Feed (ipm)	196	244	244	215	196	171	
	Profile 		≤ 0.5	≤ 1.5	2000	RPM	30560	20373	15280	12224	10187	7640	
					(1600-2400)	Fz	0.0040	0.0075	0.0100	0.0110	0.0120	0.0140	
					Feed (ipm)	244	306	306	269	244	214		
	HSM 	≤ 0.05	≤ 2	3300	RPM	50424	33616	25212	20170	16808	12606		
				(2640-3960)	Fz	0.0090	0.0170	0.0230	0.0250	0.0275	0.0320		
				Feed (ipm)	908	1143	1160	1008	924	807			

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B) HSM (High Speed Machining)
 rpm = Vc x 3.82 / DC
 ipm = Fz x 2 x 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-sgstoool.com)