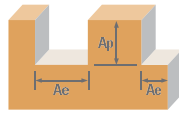


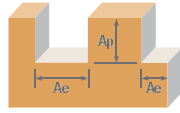
Series
43CR, 43CB, 43LC,
43, 43L, 43LCB, 43B,
43LB, 43ELB, 43EC
Fractional
















Material	Hardness	Ae x D1	Ap x D1	Vc (sfm)	Diameter (D1) (inch)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	
ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6073, 7075	Slot 1 ≤ 1	1	≤ 1	1600	RPM	48896	24448	16299	12224	9779	8149	6112
				(1280-1920)	Fz	0.0009	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085
					Feed (ipm)	132	183	220	220	191	171	156
	Profile ≤ 0.5 ≤ 1.5	≤ 0.5	≤ 1.5	2000	RPM	61120	30560	20373	15280	12224	10187	7640
				(1600-2400)	Fz	0.0009	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085
					Feed (ipm)	165	229	275	275	238	214	195
	HSM ≤ 0.05 ≤ 2	≤ 0.05	≤ 2	3300	RPM	100848	50424	33616	25212	20170	16808	12606
				(2640-3960)	Fz	0.0021	0.0055	0.0105	0.0140	0.0150	0.0165	0.0195
					Feed (ipm)	635	832	1059	1059	908	832	737
ALUMINUM DIE CAST ALLOYS (HIGH SILICONE) A-390, A-392, B-390	Slot 1 ≤ 1	1	≤ 1	600	RPM	18336	9168	6112	4584	3667	3056	2292
				(480-720)	Fz	0.0009	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085
					Feed (ipm)	50	69	83	83	72	64	58
	Profile ≤ 0.5 ≤ 1.5	≤ 0.5	≤ 1.5	750	RPM	22920	11460	7640	5730	4584	3820	2865
				(600-900)	Fz	0.0009	0.0025	0.0045	0.0060	0.0065	0.0070	0.0085
					Feed (ipm)	62	86	103	103	89	80	73
	HSM ≤ 0.05 ≤ 2	≤ 0.05	≤ 2	1240	RPM	37894	18947	12631	9474	7579	6316	4737
				(992-1488)	Fz	0.0021	0.0055	0.0105	0.0140	0.0150	0.0165	0.0195
					Feed (ipm)	239	313	398	398	341	313	277
COPPER ALLOYS Aluminum Bronze Brass Naval Brass Red Brass	Slot 1 ≤ 1	1	≤ 1	865	RPM	26434	13217	8811	6609	5287	4406	3304
				(692-1038)	Fz	0.0008	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070
					Feed (ipm)	63	79	106	99	87	79	69
	Profile ≤ 0.5 ≤ 1.5	≤ 0.5	≤ 1.5	1080	RPM	33005	16502	11002	8251	6601	5501	4126
				(864-1296)	Fz	0.0008	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070
					Feed (ipm)	79	99	132	124	109	99	87
	HSM ≤ 0.05 ≤ 2	≤ 0.05	≤ 2	1780	RPM	54397	27198	18132	13599	10879	9066	6800
				(1424-2136)	Fz	0.0017	0.0045	0.0085	0.0115	0.0125	0.0140	0.0160
					Feed (ipm)	277	367	462	469	408	381	326
COPPER ALLOYS Beryllium Copper C110, Malleable Bronze, Tin Bronze	Slot 1 ≤ 1	1	≤ 1	345	RPM	10543	5272	3514	2636	2109	1757	1318
				(276-414)	Fz	0.0008	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070
					Feed (ipm)	25	32	42	40	35	32	28
	Profile ≤ 0.5 ≤ 1.5	≤ 0.5	≤ 1.5	430	RPM	13141	6570	4380	3285	2628	2190	1643
				(344-516)	Fz	0.0008	0.0020	0.0040	0.0050	0.0055	0.0060	0.0070
					Feed (ipm)	32	39	53	49	43	39	34
	HSM ≤ 0.05 ≤ 2	≤ 0.05	≤ 2	710	RPM	21698	10849	7233	5424	4340	3616	2712
				(568-852)	Fz	0.0017	0.0045	0.0085	0.0115	0.0125	0.0140	0.0160
					Feed (ipm)	111	146	184	187	163	152	130
PLASTICS ABS, Polycarbonate, PVC, Polypropylene	Slot 1 ≤ 1	1	≤ 1	1600	RPM	48896	24448	16299	12224	9779	8149	6112
				(1280-1920)	Fz	0.0015	0.0040	0.0075	0.0100	0.0110	0.0120	0.0140
					Feed (ipm)	220	293	367	367	323	293	257
	Profile ≤ 0.5 ≤ 1.5	≤ 0.5	≤ 1.5	2000	RPM	61120	30560	20373	15280	12224	10187	7640
				(1600-2400)	Fz	0.0015	0.0040	0.0075	0.0100	0.0110	0.0120	0.0140
					Feed (ipm)	275	367	458	458	403	367	321
	HSM ≤ 0.05 ≤ 2	≤ 0.05	≤ 2	3300	RPM	100848	50424	33616	25212	20170	16808	12606
				(2640-3960)	Fz	0.0034	0.0090	0.0170	0.0230	0.0250	0.0275	0.0320
					Feed (ipm)	1029	1361	1714	1740	1513	1387	1210

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B) HSM (High Speed Machining)
 rpm = Vc x 3.82 / D1
 ipm = Fz x 3 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 D1 maximum)
 refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Series
43M, 43MB, 43MCR,
43ML, 43MLC,
43MCB
Metric



Metric	Hardness	Ae x D ₁	Ap x D ₁	Vc (m/min)	Diameter (D ₁) (mm)								
					3	6	10	12	16	20	25		
ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6073, 7075	≤ 150 Bhn or ≤ 7 HRc	Slot 	1	≤ 1	490	RPM	52022	26011	15607	13005	9754	7803	6243
					(392-588)	Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213
						Feed (mm/min)	3371	4682	5618	5618	4869	4370	3980
	Profile 	≤ 0.5	≤ 1.5	610	RPM	64762	32381	19429	16190	12143	9714	7771	
				(488-732)	Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213	
					Feed (mm/min)	4196	5828	6994	6994	6061	5440	4955	
	HSM 	≤ 0.05	≤ 2	1005	RPM	106698	53349	32009	26674	20006	16005	12804	
				(804-1206)	Fz	0.050	0.132	0.280	0.336	0.384	0.440	0.488	
					Feed (mm/min)	16131	21124	26888	26885	23046	21126	18726	
ALUMINUM DIE CAST ALLOYS (HIGH SILICONE) A-390, A-392, B- 390	≤ 125 Bhn or ≤ 77 HRb	Slot 	1	≤ 1	185	RPM	19641	9820	5892	4910	3683	2946	2357
					(148-222)	Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213
						Feed (mm/min)	1273	1768	2121	2121	1838	1650	1503
	Profile 	≤ 0.5	≤ 1.5	230	RPM	24418	12209	7326	6105	4578	3663	2930	
				(184-276)	Fz	0.022	0.060	0.120	0.144	0.166	0.187	0.213	
					Feed (mm/min)	1582	2197	2637	2637	2285	2051	1868	
	HSM 	≤ 0.05	≤ 2	380	RPM	40343	20172	12103	10086	7564	6052	4841	
				(304-456)	Fz	0.050	0.132	0.280	0.336	0.384	0.440	0.488	
					Feed (mm/min)	6099	7987	10166	10166	8714	7988	7081	
COPPER ALLOYS Aluminum Bronze Brass Naval Brass Red Brass	≤ 140 Bhn or ≤ 3 HRc	Slot 	1	≤ 1	265	RPM	28134	14067	8440	7034	5275	4220	3376
					(212-318)	Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175
						Feed (mm/min)	1620	2025	2701	2532	2228	2026	1773
	Profile 	≤ 0.5	≤ 1.5	330	RPM	35035	17518	10511	8759	6569	5255	4204	
				(264-396)	Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175	
					Feed (mm/min)	2018	2522	3363	3153	2775	2523	2207	
	HSM 	≤ 0.05	≤ 2	545	RPM	57861	28930	17358	14465	10849	8679	6943	
				(436-654)	Fz	0.041	0.108	0.227	0.276	0.320	0.373	0.400	
					Feed (mm/min)	7082	9373	11804	11976	10415	9721	8332	
COPPER ALLOYS Beryllium Copper C110, Manganese Bronze, Tin Bronze	≤ 200 Bhn or ≤ 23 HRc	Slot 	1	≤ 1	105	RPM	11148	5574	3344	2787	2090	1672	1338
					(84-126)	Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175
						Feed (mm/min)	642	803	1070	1003	883	803	702
	Profile 	≤ 0.5	≤ 1.5	130	RPM	13802	6901	4141	3450	2588	2070	1656	
				(104-156)	Fz	0.019	0.048	0.107	0.120	0.141	0.160	0.175	
					Feed (mm/min)	795	994	1325	1242	1093	994	870	
	HSM 	≤ 0.05	≤ 2	215	RPM	22826	11413	6848	5706	4280	3424	2739	
				(172-258)	Fz	0.041	0.108	0.227	0.276	0.320	0.373	0.400	
					Feed (mm/min)	2794	3697	4656	4725	4109	3835	3287	
PLASTICS ABS, Polycarbonate, PVC, Polypropylene	≤ 150 Bhn or ≤ 7 HRc	Slot 	1	≤ 1	490	RPM	52022	26011	15607	13005	9754	7803	6243
					(392-588)	Fz	0.036	0.096	0.200	0.240	0.282	0.320	0.350
						Feed (mm/min)	5618	7490	9364	9363	8240	7491	6555
	Profile 	≤ 0.5	≤ 1.5	610	RPM	64762	32381	19429	16190	12143	9714	7771	
				(488-732)	Fz	0.036	0.096	0.200	0.240	0.282	0.320	0.350	
					Feed (mm/min)	6994	9325	11657	11656	10258	9326	8160	
	HSM 	≤ 0.05	≤ 2	1005	RPM	106698	53349	32009	26674	20006	16005	12804	
				(804-1206)	Fz	0.082	0.216	0.453	0.552	0.640	0.733	0.800	
					Feed (mm/min)	26117	34567	43532	44169	38410	35210	30730	

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B) HSM (High Speed Machining)
 rpm = (Vc x 1000) / (D₁ x 3.14)
 mm/min = Fz x 3 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 D₁ maximum)
 refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)