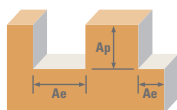


Series
43M, 43MB, 43MCR,
43ML, 43MLC,
43MCB
Metric



43ML, 43MLC, 43MCB Metric		Hardness	Ae Ap 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 ≤ 88 HRb		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		
		≤ 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			
	≤ 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		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	
≤ 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			
≤ 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		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	
	≤ 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			
	≤ 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		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	
≤ 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			
≤ 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				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	
			≤ 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		
		≤ 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)
 $\text{rpm} = (\text{Vc} \times 1000) / (\text{DC} \times 3.14)$
 $\text{mm/min} = \text{Fz} \times 3 \times \text{rpm}$
 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-sgtool.com)