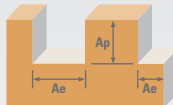


Series 1M, 3M, 5M, 14M, 15M, 16M, 17M, 59M Metric		Hardness BRINELL				Vc (m/min)	Diameter (D ₁) (mm)													
			Flutes	Ae x D ₁	Ap x D ₁		0.4	0.75	1.5	3	6	10	12	20	25					
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175		Profile		(112-168)	140	RPM	111483	59458	29729	14864	7432	4459	3716	2230	1784			
							Fz	0.0008	0.0015	0.0031	0.007	0.019	0.040	0.048	0.064	0.070				
							Feed (mm/min)	178	178	184	208	282	357	357	285	250				
							268	268	276	312	424	535	535	428	375					
				Slot		(82-123)	102	RPM	81189	43301	21650	10825	5413	3248	2706	1624	1299			
							Fz	0.0008	0.0015	0.0031	0.007	0.019	0.040	0.048	0.064	0.070				
							Feed (mm/min)	130	130	134	152	206	260	260	208	182				
							195	195	201	227	309	390	390	312	273					
			P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275		Profile		(82-123)	102	RPM	81189	43301	21650	10825	5413	3248	2706	1624	1299
										Fz	0.0005	0.0012	0.0022	0.006	0.014	0.029	0.036	0.048	0.052	
										Feed (mm/min)	81	104	95	130	152	188	195	156	135	
										122	156	143	195	227	283	292	234	203		
	Slot					(60-90)	75	RPM	59377	31668	15834	7917	3958	2375	1979	1188	950			
							Fz	0.0005	0.0012	0.0022	0.006	0.014	0.029	0.036	0.048	0.052				
							Feed (mm/min)	59	76	70	95	111	138	143	114	99				
							119	152	139	190	222	276	285	228	198					
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250					Profile		(77-115)	96	RPM	76342	40715	20358	10179	5089	3054	2545	1527	1221
										Fz	0.0005	0.0012	0.0022	0.006	0.014	0.029	0.036	0.048	0.052	
										Feed (mm/min)	76	98	90	122	143	177	183	147	127	
										115	147	134	183	214	266	275	220	191		
				Slot		(56-84)	70	RPM	55741	29729	14864	7432	3716	2230	1858	1115	892			
							Fz	0.0005	0.0012	0.0022	0.006	0.014	0.029	0.036	0.048	0.052				
							Feed (mm/min)	56	71	65	89	104	129	134	107	93				
							84	107	98	134	156	194	201	161	139					
			K	CAST IRONS Gray, Malleable, Ductile	≤ 220		Profile		(82-123)	102	RPM	81189	43301	21650	10825	5413	3248	2706	1624	1299
										Fz	0.0008	0.0015	0.0031	0.007	0.019	0.040	0.048	0.064	0.070	
										Feed (mm/min)	130	130	134	152	206	260	260	208	182	
										195	195	201	227	309	390	390	312	273		
	Slot					(60-90)	75	RPM	59377	31668	15834	7917	3958	2375	1979	1188	950			
							Fz	0.0008	0.0015	0.0031	0.007	0.019	0.040	0.048	0.064	0.070				
							Feed (mm/min)	95	95	98	111	150	190	190	152	133				
							143	143	147	166	226	285	285	228	200					
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F 440F	≤ 275					Profile		(90-135)	113	RPM	89671	47825	23912	11956	5978	3587	2989	1793	1435
										Fz	0.0005	0.0012	0.0022	0.006	0.014	0.029	0.036	0.048	0.052	
										Feed (mm/min)	90	115	105	143	167	208	215	172	149	
										135	172	158	215	251	312	323	258	224		
				Slot		(66-99)	82	RPM	65436	34899	17449	8725	4362	2617	2181	1309	1047			
							Fz	0.0005	0.0012	0.0022	0.006	0.014	0.029	0.036	0.048	0.052				
							Feed (mm/min)	65	84	77	105	122	152	157	126	109				
							98	126	115	157	183	228	236	188	163					
			M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L, 17-4 PH, 15-5, 13-4, Custom 450	≤ 275		Profile		(62-93)	78	RPM	61800	32960	16480	8240	4120	2472	2060	1236	989
										Fz	0.0005	0.0010	0.0019	0.004	0.012	0.024	0.029	0.037	0.042	
										Feed (mm/min)	62	66	63	66	99	119	119	91	83	
										93	99	94	99	148	178	179	137	125		
	Slot					(45-68)	56	RPM	44836	23912	11956	5978	2989	1793	1495	897	717			
							Fz	0.0005	0.0010	0.0019	0.004	0.012	0.024	0.029	0.037	0.042				
							Feed (mm/min)	45	48	45	48	72	86	87	66	60				
							67	72	68	72	108	129	130	100	90					
		90				96	91	96	143	172	173	133	121							