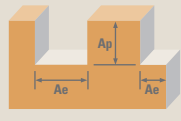


Metric | Speed & Feed Recommendations



Series Z5MCR	Hardness (Brinell)	Ae x D ₁	Ap x D ₁	V _c (m/min)	Diameter (D ₁) (mm)							
					6	8	10	12	16	20	25	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275	Profile ≤ 0.5 ≤ 1.5	169	RPM	8967	6725	5380	4484	3363	2690	2152
				(135-203)	Fz	0.029	0.049	0.061	0.074	0.087	0.099	0.108
				134	Feed (mm/min)	1300	1648	1641	1659	1463	1332	1162
				(107-161)	RPM	7109	5332	4265	3555	2666	2133	1706
				134	Fz	0.029	0.049	0.061	0.074	0.087	0.099	0.108
				134	Feed (mm/min)	1031	1306	1301	1315	1160	1056	921
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375	Profile ≤ 0.5 ≤ 1.5	96	RPM	5089	3817	3054	2545	1909	1527	1221
				(77-115)	Fz	0.022	0.036	0.045	0.055	0.067	0.075	0.080
				76	Feed (mm/min)	560	687	687	700	639	573	489
				(61-91)	RPM	4039	3029	2424	2020	1515	1212	969
				76	Fz	0.022	0.036	0.045	0.055	0.067	0.075	0.080
				76	Feed (mm/min)	444	545	545	555	507	454	388
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375	Profile ≤ 0.5 ≤ 1.5	56	RPM	2989	2242	1793	1495	1121	897	717
				(45-68)	Fz	0.017	0.030	0.037	0.043	0.051	0.059	0.063
				44	Feed (mm/min)	254	336	332	321	286	265	226
				(35-53)	RPM	2343	1757	1406	1171	879	703	562
				44	Fz	0.017	0.030	0.037	0.043	0.051	0.059	0.063
				44	Feed (mm/min)	199	264	260	252	224	207	177
K	CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220	Profile ≤ 0.5 ≤ 1.5	136	RPM	7190	5392	4314	3595	2696	2157	1726
				(109-163)	Fz	0.026	0.045	0.056	0.067	0.079	0.091	0.098
				108	Feed (mm/min)	935	1213	1208	1204	1065	981	846
				(87-130)	RPM	5736	4302	3441	2868	2151	1721	1377
				108	Fz	0.026	0.045	0.056	0.067	0.079	0.091	0.098
				108	Feed (mm/min)	746	968	964	961	850	783	675
K	CAST IRONS (HIGH ALLOY) Gray, Malleable, Ductile	> 220 ≤ 260	Profile ≤ 0.5 ≤ 1.5	104	RPM	5493	4120	3296	2747	2060	1648	1318
				(83-124)	Fz	0.020	0.034	0.043	0.050	0.059	0.067	0.073
				82	Feed (mm/min)	549	700	709	687	608	552	481
				(66-99)	RPM	4362	3272	2617	2181	1636	1309	1047
				82	Fz	0.020	0.034	0.043	0.050	0.059	0.067	0.073
				82	Feed (mm/min)	436	556	563	545	483	438	382
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275	Profile ≤ 0.5 ≤ 1.5	149	RPM	7917	5938	4750	3958	2969	2375	1900
				(119-179)	Fz	0.022	0.036	0.045	0.055	0.067	0.075	0.080
				119	Feed (mm/min)	871	1069	1069	1089	995	891	760
				(95-143)	RPM	6301	4726	3781	3151	2363	1890	1512
				119	Fz	0.022	0.036	0.045	0.055	0.067	0.075	0.080
				119	Feed (mm/min)	693	851	851	866	792	709	605
M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275	Profile ≤ 0.5 ≤ 1.5	104	RPM	5493	4120	3296	2747	2060	1648	1318
				(83-124)	Fz	0.017	0.030	0.037	0.043	0.051	0.059	0.063
				82	Feed (mm/min)	467	618	610	591	525	486	415
				(66-99)	RPM	4362	3272	2617	2181	1636	1309	1047
				82	Fz	0.017	0.030	0.037	0.043	0.051	0.059	0.063
				82	Feed (mm/min)	371	491	484	469	417	386	330
M	STAINLESS STEELS (PH) 13-8 PH, 15-5PH, 17-4 PH, CUSTOM 450	≤ 325	Profile ≤ 0.5 ≤ 1.5	94	RPM	5009	3756	3005	2504	1878	1503	1202
				(76-113)	Fz	0.017	0.030	0.037	0.043	0.051	0.059	0.063
				76	Feed (mm/min)	426	563	556	538	479	443	379
				(61-91)	RPM	4039	3029	2424	2020	1515	1212	969
				76	Fz	0.017	0.030	0.037	0.043	0.051	0.059	0.063
				76	Feed (mm/min)	343	454	448	434	386	357	305

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