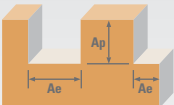










Series ZD1CR Fractional	Hardness BRINELL			Vc (SFM)	Diameter (D ₁) (inch)							
		Ae x D ₁	Ap x D ₁		1/8	1/4	3/8	1/2	5/8	3/4		
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile			405	RPM	12377	6188	4126	3094	2475	2063
			≤ 0.4	≤ 1	(324-486)	Fz	0.0005	0.0012	0.0023	0.0030	0.0039	0.0042
						Feed (IPM)	24.8	29.7	38.0	37.1	38.6	34.7
		Slot			320	RPM	9779	4890	3260	2445	1956	1630
			1	≤ 0.4	(256-384)	Fz	0.0005	0.0012	0.0023	0.0030	0.0039	0.0042
						Feed (IPM)	19.6	23.5	30.0	29.3	30.5	27.4
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile			210	RPM	6418	3209	2139	1604	1284	1070
			≤ 0.4	≤ 1	(168-252)	Fz	0.0004	0.0010	0.0019	0.0025	0.0032	0.0035
						Feed (IPM)	10.3	12.8	16.3	16.0	16.4	15.0
		Slot			170	RPM	5195	2598	1732	1299	1039	866
			1	≤ 0.4	(136-204)	Fz	0.0004	0.0010	0.0019	0.0025	0.0032	0.0035
						Feed (IPM)	8.3	10.4	13.2	13.0	13.3	12.1
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile			90	RPM	2750	1375	917	688	550	458
			≤ 0.4	≤ 1	(72-108)	Fz	0.0002	0.0005	0.0010	0.0013	0.0017	0.0018
						Feed (IPM)	2.2	2.8	3.7	3.6	3.7	3.3
		Slot			70	RPM	2139	1070	713	535	428	357
			1	≤ 0.4	(56-84)	Fz	0.0002	0.0005	0.0010	0.0013	0.0017	0.0018
						Feed (IPM)	1.7	2.1	2.9	2.8	2.9	2.6

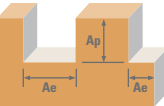






rpm = sfm x 3.82 / D₁

ipm = (inch / flute) x 4 x rpm

reduce speed and feed for materials harder than listed

reduce feed and Ae when finish milling (.02 x D₁ maximum)

refer to the SGS Tool Wizard for complete technical information ()

Series ZD1MCR Metric	Hardness BRINELL			Vc (m/min)	Diameter (D ₁) (mm)								
		Ae x D ₁	Ap x D ₁		3	6	8	10	12	16	20		
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2		≤ 0.4	≤ 1	123	RPM	13087	6544	4908	3926	3272	2454	1963
					(99-148)	Fz	0.012	0.029	0.049	0.061	0.072	0.083	0.112
					Feed (mm/min)	628	754	963	963	942	817	879	
			1	≤ 0.4	98	RPM	10340	5170	3878	3102	2585	1939	1551
					(78-117)	Fz	0.012	0.029	0.049	0.061	0.072	0.083	0.112
					Feed (mm/min)	496	596	761	761	744	645	695	
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2		≤ 0.4	≤ 1	64	RPM	6786	3393	2545	2036	1696	1272	1018
					(51-77)	Fz	0.010	0.024	0.041	0.051	0.060	0.068	0.093
					Feed (mm/min)	261	326	413	413	407	347	380	
			1	≤ 0.4	52	RPM	5493	2747	2060	1648	1373	1030	824
					(41-62)	Fz	0.010	0.024	0.041	0.051	0.060	0.068	0.093
					Feed (mm/min)	211	264	334	334	330	281	308	
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2		≤ 0.4	≤ 1	27	RPM	2908	1454	1091	872	727	545	436
					(22-33)	Fz	0.005	0.012	0.021	0.027	0.031	0.036	0.048
					Feed (mm/min)	56	70	93	93	91	79	84	
			1	≤ 0.4	21	RPM	2262	1131	848	679	565	424	339
					(17-26)	Fz	0.005	0.012	0.021	0.027	0.031	0.036	0.048
					Feed (mm/min)	43	54	72	72	71	62	65	

rpm = (1000 x m/min) / (3.14 x D₁)

mm / min = (mm / flute) x 4 x rpm

maximum Slotting Ap for Z1PLC / Z1PLB is .25 x D₁maximum Profile Ae for Z1PLC / Z1PLB is .2 x D₁

reduce speed and feed for materials harder than listed

reduce feed and Ae when finish milling (.02 x D₁ maximum)

refer to the SGS Tool Wizard for complete technical information ()