



Series 51, 51CR Fractional	Hardness BRINELL		Ae x D ₁	Ap x D ₁	Vc (SFM)	Diameter (D ₁) (inch)					
						1/4	3/8	1/2	5/8	3/4	1
S	≤ 300	Profile 	≤ 0.1	≤ 1	105	RPM	1604	1070	802	642	401
					(84-126)	Fz	0.0014	0.0027	0.0036	0.0039	0.0050
						Feed (IPM)	13	17	17	15	12
		HSM 	≤ 0.05	≤ 2	130	RPM	1986	1324	993	795	662
					(104-156)	Fz	0.0016	0.0036	0.0048	0.0053	0.0067
						Feed (IPM)	19	29	29	25	20
S	> 300	Profile 	≤ 0.1	≤ 1	80	RPM	1222	815	611	489	407
					(64-96)	Fz	0.0010	0.0018	0.0025	0.0027	0.0029
						Feed (IPM)	7	9	9	8	7
		HSM 	≤ 0.05	≤ 2	100	RPM	1528	1019	764	611	509
					(80-120)	Fz	0.0013	0.0025	0.0034	0.0037	0.0041
						Feed (IPM)	12	15	16	14	11
S	≤ 350	Profile 	≤ 0.1	≤ 1	280	RPM	4278	2852	2139	1711	1426
					(224-336)	Fz	0.0010	0.0018	0.0025	0.0027	0.0029
						Feed (IPM)	26	31	32	28	25
		HSM 	≤ 0.05	≤ 2	355	RPM	5424	3616	2712	2170	1808
					(284-426)	Fz	0.0013	0.0025	0.0034	0.0037	0.0041
						Feed (IPM)	42	54	55	48	44
S	> 350 ≤ 440	Profile 	≤ 0.1	≤ 1	155	RPM	2368	1579	1184	947	789
					(124-186)	Fz	0.0010	0.0018	0.0025	0.0027	0.0029
						Feed (IPM)	14	17	18	15	14
		HSM 	≤ 0.05	≤ 2	200	RPM	3056	2037	1528	1222	1019
					(160-240)	Fz	0.0013	0.0025	0.0034	0.0037	0.0041
						Feed (IPM)	24	31	31	27	25

rpm = sfm x 3.82 / D₁

ipm = (inch / flute) x 6 x rpm

HSM (high speed machining)

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 ()