

Speed & Feed Recommendations



ZD1CR Fractional	HARDNESS	CUT	SPEED	FEED (inch/flute)					
	BRINELL	Type	sfm	1/8	1/4	3/8	1/2	5/8	3/4
STEEL TOOL STEEL MOLD & DIE STEEL 300M, 4340, 52100, HP 9-4-20, M-50, A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 420	Slot	215	0.0006	0.0013	0.0019	0.0025	0.0031	0.0038
		Profile	265	0.0009	0.0018	0.0026	0.0035	0.0044	0.0053
		Light	560	0.0011	0.0022	0.0033	0.0044	0.0055	0.0066
	> 420 ≤ 560	Slot	120	0.0005	0.0010	0.0015	0.0020	0.0025	0.0030
		Profile	150	0.0007	0.0014	0.0021	0.0028	0.0035	0.0042
		Light	490	0.0009	0.0018	0.0026	0.0035	0.0044	0.0053
	> 560 ≤ 655	Slot	65	0.0004	0.0008	0.0011	0.0015	0.0019	0.0023
		Profile	80	0.0005	0.0011	0.0016	0.0021	0.0026	0.0032
		Light	250	0.0006	0.0013	0.0019	0.0025	0.0031	0.0038

ZD1MCR Metric	HARDNESS	CUT	SPEED	FEED (mm/flute)					
	BRINELL	Type	m/min	3	6	10	12	16	20
STEEL TOOL STEEL MOLD & DIE STEEL 300M, 4340, 52100, HP 9-4-20, M-50, A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 420	Slot	66	0.016	0.032	0.048	0.064	0.079	0.097
		Profile	81	0.023	0.046	0.066	0.089	0.112	0.135
		Light	171	0.028	0.056	0.084	0.112	0.140	0.168
	> 420 ≤ 560	Slot	37	0.013	0.025	0.038	0.051	0.064	0.076
		Profile	46	0.018	0.036	0.053	0.071	0.089	0.107
		Light	149	0.023	0.046	0.066	0.089	0.112	0.135
	> 560 ≤ 655	Slot	20	0.010	0.020	0.028	0.038	0.048	0.058
		Profile	24	0.013	0.028	0.041	0.053	0.066	0.081
		Light	76	0.015	0.033	0.048	0.064	0.079	0.097

CUT TYPE					
SLOT		PROFILE		LIGHT*	
≤ 560 Brinell Rw = D ₁ Ad = .5 x D ₁	> 560 ≤ 655 Brinell Rw = D ₁ Ad = .3 x D ₁	≤ 560 Brinell Rw = .5 x D ₁ Ad = D ₁	> 560 ≤ 655 Brinell Rw = .3 x D ₁ Ad = D ₁	≤ 655 Brinell Rw = .1 x D ₁ Ad = .1 x D ₁	$\text{rpm} = \text{sfm} \times 3.82 / D_1$ $\text{rpm} = (1000 \times \text{m/min}) / (3.14 \times D_1)$ $\text{ipm} = (\text{inch/flute}) \times 4 \times \text{rpm}$ $\text{mm/min} = (\text{mm/flute}) \times 4 \times \text{rpm}$ <ul style="list-style-type: none"> • maximum recommended depths shown *finish cuts typically require reduced feed and cutting depths of .02 x D₁ maximum • refer to the SGS Tool Wizard for more complete technical information (available at)