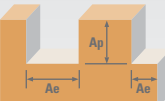






Speed & Feed Recommendations



Series ZH1CR Fractional		Hardness BRINELL			Vc (SFM)	Diameter (D ₁) (inch)					
			Ae x D ₁	Ap x D ₁		1/4	3/8	1/2	3/4	1	
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoly 800, Monel 400	≤ 300	 Profile ≤ 0.5 ≤ 1.5	(85-102)	85	RPM	1299	866	649	433	325
					Fz	0.0007	0.0012	0.0017	0.0020	0.0023	
					Feed (IPM)	3.6	4.2	4.4	3.5	3.0	
		 Slot 1 ≤ 1	(56-84)	70	RPM	1070	713	535	357	267	
				Fz	0.0007	0.0012	0.0017	0.0020	0.0023		
				Feed (IPM)	3.0	3.4	3.6	2.9	2.5		
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, 750X, Incoly 925, Waspaloy, Hastelloy, Rene	> 300	 Profile ≤ 0.5 ≤ 1.5	(56-84)	70	RPM	1070	713	535	357	267
					Fz	0.0005	0.0009	0.0012	0.0014	0.0016	
					Feed (IPM)	2.1	2.6	2.6	2.0	1.7	
		 Slot 1 ≤ 1	(44-66)	55	RPM	840	560	420	280	210	
				Fz	0.0005	0.0009	0.0012	0.0014	0.0016		
				Feed (IPM)	1.7	2.0	2.0	1.6	1.3		

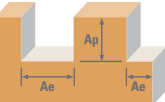




$$\text{rpm} = \text{sfm} \times 3.82 / D_1$$

$$\text{ipm} = (\text{inch / flute}) \times 4 \times \text{rpm}$$

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 ZH1MCR Metric		Hardness BRINELL			Vc (m/min)	Diameter (D ₁) (mm)						
			Ae x D ₁	Ap x D ₁		6	10	12	20	25		
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoly 800, Monel 400	≤ 300	 Profile	≤ 0.5	≤ 1.5	26	RPM	1373	824	687	412	330
						(21-31)	Fz	0.017	0.032	0.041	0.053	0.058
						Feed (mm/min)	93	105	113	87	76	
			 Slot	1	≤ 1	21	RPM	1131	679	565	339	271
						(17-26)	Fz	0.017	0.032	0.041	0.053	0.058
						Feed (mm/min)	77	87	93	72	63	
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, 750X, Incoly 925, Waspaloy, Hastelloy, Rene	> 300	 Profile	≤ 0.5	≤ 1.5	21	RPM	1131	679	565	339	271
						(17-26)	Fz	0.012	0.024	0.029	0.037	0.040
						Feed (mm/min)	54	65	66	50	43	
			 Slot	1	≤ 1	17	RPM	889	533	444	267	213
						(13-20)	Fz	0.012	0.024	0.029	0.037	0.040
						Feed (mm/min)	43	51	52	39	34	

$$\text{rpm} = (1000 \times \text{m/min}) / (3.14 \times D_1)$$

$$\text{mm / min} = (\text{mm / flute}) \times 4 \times \text{rpm}$$

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 ()