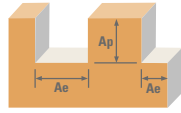


METRIC Z-Carb-HTA



Series ZH1MCRS, ZH1MCR Metric	Hardness	Ae x DC	Ap x DC	Vc (m/min)	DC • mm						
					6	10	12	20			
SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400	≤ 300 Bhn or ≤ 32 HRc	≤ 0.5	≤ 1.5	26 RPM	6	10	12	20			
					Fz	0.017	0.032	0.041	0.053		
				Profile	Fz	6	10	12	20		
						Feed (mm/min)	93	105	113	87	
				Slot	1	≤ 1	21 RPM	6	10	12	20
								Fz	0.017	0.032	0.041
Profile	Fz	6	10	12	20						
		Feed (mm/min)	77	87	93	72					
SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	≤ 400 Bhn or ≤ 43 HRc	≤ 0.5	≤ 1.5	21 RPM	6	10	12	20			
					Fz	0.012	0.024	0.029	0.037		
				Slot	1	≤ 1	17 RPM	6	10	12	20
								Fz	0.012	0.024	0.029
				Profile	Fz	6	10	12	20		
						Feed (mm/min)	54	65	66	50	
Slot	1	≤ 1	17 RPM	6	10	12	20				
				Fz	0.012	0.024	0.029	0.037			
Profile	Fz	6	10	12	20						
		Feed (mm/min)	43	51	52	39					
TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	≤ 0.5	≤ 1.5	66 RPM	6	10	12	20			
					Fz	0.019	0.041	0.049	0.057		
				Slot	1	≤ 1	52 RPM	6	10	12	20
								Fz	0.019	0.041	0.049
				Profile	Fz	6	10	12	20		
						Feed (mm/min)	264	342	340	238	
Slot	1	≤ 1	52 RPM	6	10	12	20				
				Fz	0.019	0.041	0.049	0.057			
Profile	Fz	6	10	12	20						
		Feed (mm/min)	209	270	269	188					
TITANIUM ALLOYS (DIFFICULT) Ti10Al2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	≤ 440 Bhn or ≤ 47 HRc	≤ 0.5	≤ 1.5	23 RPM	6	10	12	20			
					Fz	0.019	0.041	0.049	0.057		
				Slot	1	≤ 1	18 RPM	6	10	12	20
								Fz	0.019	0.041	0.049
				Profile	Fz	6	10	12	20		
						Feed (mm/min)	92	119	119	83	
Slot	1	≤ 1	18 RPM	6	10	12	20				
				Fz	0.019	0.041	0.049	0.057			
Profile	Fz	6	10	12	20						
		Feed (mm/min)	74	95	95	66					

Bhn (Brinell) HRc (Rockwell C)
 $rpm = (Vc \times 1000) / (DC \times 3.14)$
 $ipm = Fz \times 4 \times rpm$
 reduce speed and feed for materials harder than listed
 reduce feed and Ae when finish milling (.02 x DC maximum)
 feed rates listed have chip thinning adjustments included where applicable
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)