

RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Grade	Cutting Speed (SFM)	Finish—Light Cutting		Light—Semi-Heavy Cutting		Medium—Heavy Cutting			
				Feed per Tooth (mm/tooth)	Breaker	Feed per Tooth (mm/tooth)	Breaker	Feed per Tooth (mm/tooth)	Breaker		
P	Mild Steel	≤180HB	F7030	920 (690—1150)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			MP6120 VP15TF	820 (655—985)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			MP6130	800 (620—950)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			VP30RT	755 (590—920)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			NX4545	590 (425—755)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
	Carbon Steel Alloy Steel	180—280HB	F7030	820 (655—985)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			MP6120 VP15TF	720 (560—885)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			MP6130	600 (480—740)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			VP30RT	490 (395—590)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
			NX4545	490 (390—590)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
		280—350HB	F7030	590 (425—755)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			MP6120 VP15TF	460 (330—590)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			MP6130	400 (300—490)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
			VP30RT	330 (260—395)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
NX4545	330 (260—390)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—				
	M	Stainless Steel	≤270HB	MP7130 VP15TF	720 (560—885)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH
				MP7140 VP30RT	655 (490—820)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH
NX4545				490 (395—590)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
K	Cast Iron Ductile Cast Iron	Tensile Strength ≤450MPa	MC5020	655 (400—820)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH FT	
			VP15TF	590 (425—826)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH	
		Tensile Strength ≥450MPa	MC5020	360 (260—490)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	.012 (.008—.016)	JH FT	
N	Aluminum Alloy	—	HTi10	2130 (1000—3300)	.006 (.004—.008)	JP	.008 (.004—.012)	JP	.012 (.008—.016)	JP	
S	Titanium Alloy	—	MP9120 VP15TF	165 (130—195)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
			MP9130	140 (100—180)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
	Heat Resistant Alloy	—	MP9120 VP15TF	130 (65—165)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
			MP9130	110 (55—140)	.006 (.004—.008)	JL	.008 (.004—.012)	JM	—	—	
H	Hardened Steel	40—55HRC	VP15TF	260 (195—330)	.004 (.002—.006)	JL	.006 (.004—.008)	JM	.008 (.004—.012)	JH	

● Revolution (min⁻¹)=(1000 x Cutting Speed)÷(3.14 x ϕD1) ● Table Feed (mm/min)=Feed per Tooth x Number of Teeth x Cutter Revolution

Recommended Cutting Conditions

ASX445

Dry and Wet Cutting

(inch)

Workpiece Material	Properties	Cutting Speed v_c (m/min)		Finish-Light Cutting		Light-Rough Cutting		Medium-Heavy Cutting		
		MV1020	MV1030	Feed f_z (IPT)	Breaker	Feed f_z (IPT)	Breaker	Feed f_z (IPT)	Breaker	
P Mild Steel	Hardness $\leq 180\text{HB}$	985(655–1310)	900(655–1150)	.006(.004–.008)	JL	.008(.004–.012)	JM	.012(.008–.016)	JH	
	Carbon Steel Alloy Steel	Hardness 180–280HB	850(560–1150)	770(560–985)	.006(.004–.008)	JL	.008(.004–.012)	JM	.012(.008–.016)	JH
		Hardness 280–350HB	590(330–820)	540(330–755)	.006(.004–.008)	JL	.008(.004–.012)	JM	.012(.008–.016)	JH
M Stainless Steel	–	–	720(560–885)	.006(.004–.008)	JL	.008(.004–.012)	JM	.012(.008–.016)	JH	
K Ductile Cast Iron	Tensile Strength $\leq 450\text{MPa}$	785(425–1150)	620(425–820)	.006(.004–.008)	JL	.008(.004–.012)	JM	.012(.008–.016)	JH FT	
	Tensile Strength $>450\text{MPa}$	720(260–1150)	360(260–490)	.006(.004–.008)	JL	.008(.004–.012)	JM	.012(.008–.016)	JH FT	