

RECOMMENDED CUTTING CONDITIONS

Work Material	Drill Diameter	$\phi 14.0 - \phi 15.4$		$\phi 15.5 - \phi 18.4$		$\phi 18.5 - \phi 21.4$	
	Conditions Hardness	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	$\leq 180\text{HB}$	70 (60-90)	0.20 (0.15-0.25)	80 (60-100)	0.25 (0.20-0.30)	90 (70-110)	0.25 (0.20-0.30)
	180-280HB	70 (60-90)	0.20 (0.15-0.25)	80 (60-100)	0.25 (0.20-0.30)	80 (60-100)	0.25 (0.20-0.30)
	280-350HB	60 (50-80)	0.15 (0.12-0.18)	70 (50-90)	0.20 (0.15-0.25)	70 (50-90)	0.20 (0.15-0.25)
M Stainless Steel	$\leq 200\text{HB}$	50 (40-60)	0.15 (0.12-0.18)	50 (40-60)	0.15 (0.12-0.18)	60 (50-70)	0.20 (0.15-0.22)
K Cast Iron	Tensile Strength $\leq 350\text{MPa}$	70 (50-90)	0.20 (0.15-0.25)	100 (60-120)	0.25 (0.20-0.30)	120 (60-140)	0.25 (0.20-0.30)
	Ductile Cast Iron Tensile Strength $\leq 450\text{MPa}$	70 (50-90)	0.20 (0.15-0.25)	80 (60-90)	0.25 (0.20-0.30)	80 (60-90)	0.25 (0.20-0.30)

Work Material	Drill Diameter	$\phi 21.5 - \phi 24.4$		$\phi 24.5 - \phi 27.4$		$\phi 27.5 - \phi 30.4$	
	Conditions Hardness	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	$\leq 180\text{HB}$	100 (80-120)	0.30 (0.25-0.35)	110 (80-120)	0.30 (0.25-0.35)	110 (80-120)	0.30 (0.25-0.35)
	180-280HB	90 (70-110)	0.30 (0.25-0.35)	100 (80-120)	0.30 (0.25-0.35)	100 (80-120)	0.30 (0.25-0.35)
	280-350HB	80 (60-100)	0.25 (0.20-0.30)	90 (70-110)	0.25 (0.20-0.30)	90 (70-110)	0.25 (0.20-0.30)
M Stainless Steel	$\leq 200\text{HB}$	60 (50-70)	0.20 (0.15-0.22)	70 (60-80)	0.25 (0.20-0.28)	70 (60-80)	0.25 (0.20-0.28)
K Cast Iron	Tensile Strength $\leq 350\text{MPa}$	130 (80-150)	0.35 (0.25-0.40)	140 (90-160)	0.35 (0.25-0.40)	140 (90-160)	0.40 (0.30-0.45)
	Ductile Cast Iron Tensile Strength $\leq 450\text{MPa}$	90 (60-100)	0.30 (0.25-0.35)	100 (80-110)	0.30 (0.25-0.35)	100 (80-110)	0.30 (0.25-0.35)

(Note 1) H type honing is recommended when machining mild steel and stainless steel.

(Note 2) Recommended for use only with a rigid machine and set up. Use the internal coolant system when machining stainless steel.
(MQL and mist machining should not be used.)