

RECOMMENDED CUTTING CONDITIONS

Work material		Carbon steel, Cast iron, Alloy steel (–30HRC) AISI 1050, AISI No 35 B, AISI P20		Alloy steel, Tool steel, Pre-hardened steel AISI H13, AISI W1-10, AISI P21		Austenitic stainless steel, Titanium alloy AISI 304, AISI 306, Ti-6Al-4V		Hardened steel (45–55HRC) AISI H13		
Dia. DC (mm)	Neck length LU (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	
1	2	(2D)	30000	600	20000	400	18000	300	15000	120
2	4		15000	600	10000	400	9100	300	8000	120
3	6		10000	600	7000	400	6000	300	5000	120
4	8		7500	600	5200	400	4500	300	4000	120
6	12		5000	600	3500	400	3000	300	2700	120
1	5	(5D)	22000	350	17000	280	14000	200	12000	100
2	10		11000	350	8800	280	7200	200	6400	100
3	15		7400	350	5800	280	4800	200	4200	100
4	20		5600	350	4400	280	3600	200	3200	100
6	30		3700	350	2900	280	2400	200	2100	100

Depth of cut	(Neck length=2D)		(Neck length=2D)	
	$\leq 0.1DC$ ($DC \leq \phi 3$) $\leq 0.2DC$ ($DC > \phi 3$)		$\leq 0.05DC$ $\leq 1DC$	
	$\leq 0.1DC$ ($DC < \phi 2$) $\leq 0.2DC$ ($DC \geq \phi 2$)		$\leq 0.05DC$ ($DC \leq \phi 2$) $\leq 0.1DC$ ($DC > \phi 2$)	
	$\leq 1.5DC$		$\leq 0.05DC$ $\leq 1DC$	
	(Neck length=5D)		(Neck length=5D)	
	$\leq 0.05DC$ $\leq 1DC$		$\leq 0.02DC$ $\leq 1DC$	
	$\leq 0.05DC$		$\leq 0.02DC$	

DC: Dia.

- 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.
- 2) If the depth of cut is shallow, the revolution and feed rate can be increased.