

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness HB	Grade	Chip-breaker	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
N	Aluminium alloy	60	TH10	AJ	300 - 5000	0.15 - 0.35
		100	TH10	AJ	200 - 2000	0.1 - 0.25
	Cast aluminium alloy Si ≤ 12%	75	TH10	AJ	200 - 2000	0.15 - 0.3
		90	TH10	AJ	200 - 1500	0.1 - 0.25
	Cast aluminium alloy Si > 12%	130	TH10	AJ	200 - 1000	0.07 - 0.15
	Copper alloys Pb > 1%	110	TH10	AJ	200 - 800	0.07 - 0.15
	Copper alloys	90	TH10	AJ	300 - 1000	0.1 - 0.15
		100	TH10	AJ	300 - 800	0.1 - 0.15
	Duroplastics, fiber plastics	-	TH10	AJ	100 - 500	0.1 - 0.15
	Hard rubber	-	TH10	AJ	100 - 300	0.1 - 0.15

Safety guidelines

1. Use only the original inserts, cutters and spare parts.
2. Insert pocket must be cleaned before clamping the insert.
3. Clamp torque of screw should be 4.5 N·m.
4. For safety reasons, use a new screw when changing the insert.
5. Maximum RPM values are determined based on the burst test. Using RPM beyond maximum values may cause insert breakage, machine damage or personal injury.
6. XVCT insert has sharp cutting edges. Always wear gloves for protection from injury when handling.

ACCELERATED MACHINING

Tool dia.: DC (mm), Number of revolutions : n (min^{-1}), Feed speed : V_f (mm/min), Max depth of cut $a_p = 2.0$ mm, Number of inserts : z

$\phi 25$		$\phi 32$		$\phi 40$		$\phi 50$		$\phi 63$		$\phi 80$		$\phi 100$		$\phi 125$			
$z = 2$		$z = 2$		$z = 3$		$z = 3$		$z = 4$		$z = 5$		$z = 5$		$z = 6$		$z = 7$	
n	V_f	n	V_f	n	V_f	n	V_f	n	V_f	n	V_f	n	V_f	n	V_f	n	V_f
19100	9600	14900	7500	14900	11200	11900	8900	9500	9500	7600	9500	6000	7500	4800	7200	3800	6700
Vc = 1500m/min, fz = 0.25 mm/t																	
12700	5100	9900	4000	9900	5900	8000	4800	6400	5100	5100	5100	4000	4000	3200	3800	2500	3500
Vc = 1000 m/min, fz = 0.2 mm/t																	
12700	5100	9900	4000	9900	5900	8000	4800	6400	5100	5100	5100	4000	4000	3200	3800	2500	3500
Vc = 1000 m/min, fz = 0.2 mm/t																	
10200	3100	8000	2400	8000	3600	6400	2900	5100	3100	4000	3000	3200	2400	2500	2300	2000	2100
Vc = 800 m/min, fz = 0.15 mm/t																	
7600	1500	6000	1200	6000	1800	4800	1400	3800	1500	3000	1500	2400	1200	1900	1100	1500	1100
Vc = 600 m/min, fz = 0.1 mm/t																	
6400	1300	5000	1000	5000	1500	4000	1200	3200	1300	2500	1300	2000	1000	1600	1000	1300	900
Vc = 500 m/min, fz = 0.1 mm/t																	
7600	1800	6000	1400	6000	2200	4800	1700	3800	1800	3000	1800	2400	1400	1900	1400	1500	1300
Vc = 600 m/min, fz = 0.12 mm/t																	
6400	1500	5000	1200	5000	1800	4000	1400	3200	1500	2500	1500	2000	1200	1600	1200	1300	1100
Vc = 500 m/min, fz = 0.12 mm/t																	
3800	900	3000	700	3000	1100	2400	900	1900	900	1500	900	1200	700	1000	700	800	700
Vc = 300 m/min, fz = 0.12 mm/t																	
2500	600	2000	500	2000	700	1600	600	1300	600	1000	600	800	500	600	400	500	400
Vc = 200 m/min, fz = 0.12 mm/t																	