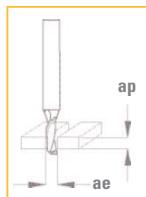


**DIXI 7561**

## CUTTING CONDITIONS



$$n \text{ [tr/min]} = \frac{Vc \text{ [m/min]} \times 1000}{\pi \times D_1 \text{ [mm]}}$$

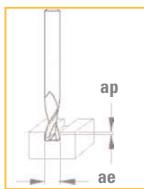
$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times Z$$

Materials to be machined		CARBIDE		ap [mm]	ae [mm]
	Vc [m/min]				
P	Lead alloyed cutting steel	80	100	< 0.7 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)	100	130	< 1 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	120	160	< 1 x ØD1
N	Cast aluminium	Si > 8%	100	130	< 1 x ØD1
N	Plastic		130	200	< 1.5 x ØD1

The plunging feed ( $V_{fp}$ ) of an end mill  $Z = 1$  (drilling) must be reduced by 40 to 80 % depending on the material to be machined.

		Feed per tooth		fz [mm]							
$\varnothing D_1$		$\varnothing D_1$		$\varnothing D_1$		$\varnothing D_1$		$\varnothing D_1$		$\varnothing D_1$	
2.00 - 2.50	2.50 - 3.00	3.00 - 4.00	4.00 - 5.00	5.00 - 6.00	6.00 - 8.00	8.00 - 10.00	10.00 - 12.00				
<b>0.010</b> - 0.03	<b>0.013</b> - 0.04	<b>0.02</b> - 0.05	<b>0.02</b> - 0.06	<b>0.03</b> - 0.07	<b>0.03</b> - 0.10	<b>0.04</b> - 0.12	<b>0.05</b> - 0.17				
<b>0.014</b> - 0.04	<b>0.018</b> - 0.05	<b>0.02</b> - 0.06	<b>0.03</b> - 0.08	<b>0.04</b> - 0.09	<b>0.04</b> - 0.12	<b>0.06</b> - 0.15	<b>0.07</b> - 0.21				
<b>0.014</b> - 0.04	<b>0.018</b> - 0.05	<b>0.02</b> - 0.06	<b>0.03</b> - 0.08	<b>0.04</b> - 0.09	<b>0.04</b> - 0.12	<b>0.06</b> - 0.15	<b>0.07</b> - 0.21				
<b>0.014</b> - 0.04	<b>0.018</b> - 0.05	<b>0.02</b> - 0.06	<b>0.03</b> - 0.08	<b>0.04</b> - 0.09	<b>0.04</b> - 0.12	<b>0.06</b> - 0.15	<b>0.07</b> - 0.21				
<b>0.020</b> - 0.05	<b>0.025</b> - 0.06	<b>0.03</b> - 0.08	<b>0.04</b> - 0.10	<b>0.05</b> - 0.12	<b>0.06</b> - 0.16	<b>0.08</b> - 0.20	<b>0.10</b> - 0.28				

DIXI 7552 - 7562 - 7572 - 7582



Materials to be machined			CARBIDE		TiAIN	DICUT	DIAMOND	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	ap [mm]	ae [mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm <sup>2</sup>	50	80				< 1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm <sup>2</sup>			70	100		< 0.5 x ØD1
P	High alloyed steel	700 – 1500 N/mm <sup>2</sup>			40	60		< 0.5 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	100	170				< 1 x ØD1
S	Titanium, titanium alloys		60	80				< 1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		80	120				< 1.5 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze (Ampco)	(CuAlFe)			100	140		< 1 x ØD1
N	Aluminium alloys	Si < 8%	150	200				< 1.5 x ØD1
N	Cast aluminium	Si > 8%	100	200				< 1 x ØD1
N	Graphite					200	300	3 x ØD1 < 0.30 x ØD1
N	Plastic		100	130				< 2 x ØD1
N	Gold, silver		90	130	100	140		< 0.5 x ØD1

		Feed per tooth		fz [mm]							
$\emptyset D_1$		$\emptyset D_1$		$\emptyset D_1$		$\emptyset D_1$		$\emptyset D_1$		$\emptyset D_1$	
1.00 - 2.00	2.00 - 3.00	3.00 - 5.00	5.00 - 7.00	7.00 - 10.00	10.00 - 13.00	13.00 - 16.00	16.00 - 20.00	1.00 - 2.00	2.00 - 3.00	3.00 - 5.00	5.00 - 7.00
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.014 - 0.04	0.018 - 0.05	0.021 - 0.05	0.025 - 0.06	0.032 - 0.08	0.04 - 0.09	0.04 - 0.11	0.05 - 0.12				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				
0.012 - 0.02	0.018 - 0.04	0.03 - 0.06	0.04 - 0.09	0.07 - 0.12	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20				