



FRAISAGE


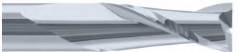











FRÄSEN

MILLING

FRESATURA

MARÁS

FRESADO

	SELECTION OF END MILLS	88
	END MILLS Z = 1	102
	END MILLS Z = 2	107
	END MILLS Z = 3	118
	END MILLS Z = 4	128
	MULTI-TOOTH END MILLS	132
	ROUGHING END MILLS	134
	END MILLS WITH RADIUS CORNER	137
	BALL-NOSE END MILLS	142
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✓ = item from stock

* = for non-ferrous material

SELECTION OF END MILLS

END MILLS Z=1		Z	Page	Roughing	Finishing	<input type="checkbox"/> CARBIDE	<input checked="" type="checkbox"/> TiAIN	<input type="checkbox"/> C-TOP	<input type="checkbox"/> DLC*	<input type="checkbox"/> DIAMANT*
DIXI 7561 Ø 2.00 - 12.00		1	102	Roughing ●●●●○	Finishing ●●●○	✓			✓*	
DIXI 7301 Ø 2.00 - 8.00		1	102	Roughing ●●●●○	Finishing ●●●○	✓				
DIXI 7302 Ø 3.00 - 12.00		1	103	Roughing ●●●●○	Finishing ●●●○	✓				
DIXI 7303 Ø 2.00 - 4.00		1	103	Roughing ●●●●○	Finishing ●●●○	✓				
DIXI 7311 Ø 1.00 - 12.00		1	104	Roughing ●●●●○	Finishing ●●●○	✓				
DIXI 7060 Ø 0.50 - 6.00		1	105	Roughing ●●●○	Finishing ●●●○	✓				
DIXI 7063 Ø 0.40 - 4.00		1	106	Roughing ●●●○	Finishing ●●●○	✓				
END MILLS Z=2										
DIXI 7242 Ø 0.10 - 20.00		2	107	Roughing ●●●○	Finishing ●●●○	✓	✓			
DIXI 7342 Ø 0.10 - 12.00		2	108	Roughing ●●●○	Finishing ●●●○	✓		✓		
DIXI 7202 Ø 1.50 - 12.00		2	109	Roughing ●●●○	Finishing ●●●○	✓	✓			✓*
DIXI 7222 Ø 3.00 - 20.00		2	110	Roughing ●●●○	Finishing ●●●○	✓	✓			✓*
DIXI 7240 Ø 0.04 - 5.50		2	111	Roughing ●●●○	Finishing ●●●○	✓	✓			
DIXI 7237 Ø 0.15 - 3.00		2	112	Roughing ●●●○	Finishing ●●●○	✓	✓			



○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
								○		⊙		○
												⊙
												⊙
												⊙
												⊙
					○			⊙	○	○		○
					○			⊙	○	○		○

⊙	○	○	○		⊙		○	⊙	○	○		○
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙			
⊙	○		○				○	⊙	○	○	⊙	○
⊙	○		○				○	⊙	○	○	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	○		○
⊙	○	○	○		⊙	○	○	⊙	○	○		○



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SELECTION OF END MILLS

END MILLS Z=2		Z	Page	Roughing	Finishing	CARBIDE	TiAIN	C-TOP	CUTINOX	DIAMANT*
DIXI 7238 Ø 0.30 - 3.00		2	112	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7239 Ø 0.40 - 3.00		2	112	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7239-10D Ø 0.50 - 3.00		2	112	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7239-12D Ø 0.50 - 1.70		2	112	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7239-15D Ø 0.50 - 1.35		2	112	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7582 Ø 1.00 - 20.00		2	116	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7572 Ø 3.00 - 12.00		2	117	Roughing ●●●●○	Finishing ●●●●○	✓	✓			✓*
DIXI 7232 Ø 2.00 - 8.00		2	117	Roughing ●●●●○	Finishing ●●●●○	✓				
END MILLS Z=3										
DIXI 7243 Ø 0.35 - 20.00		3	118	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7343 Ø 0.30 - 16.00		3	119	Roughing ●●●●○	Finishing ●●●●○	✓		✓		
DIXI 7203 Ø 2.00 - 20.00		3	120	Roughing ●●●●○	Finishing ●●●●○	✓	✓			
DIXI 7223 Ø 3.00 - 16.00		3	121	Roughing ●●●●○	Finishing ●●●●○	✓	✓			✓*
DIXI 7333 Ø 0.30 - 10.00		3	122	Roughing ●●●●○	Finishing ●●●●○	✓			✓	



○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
⊙	○	○	○		⊙	○	○	⊙	○	○		○
⊙	○	○	○		⊙	○	○	⊙	○	○		○
⊙	○	○	○		⊙	○	○	⊙	○	○		○
⊙	○	○	○		⊙	○	○	⊙	○	○		○
⊙	○	○	○		⊙	○	○	⊙	○	○		○
○					○		⊙	○	○	⊙		○
○								○	○	⊙	⊙	○
					○			⊙		⊙		○

⊙	○	○	○		⊙		○	⊙	○	⊙		○
⊙	⊙	⊙	⊙		○	⊙	⊙	○	⊙			
⊙	○	○	○		⊙		○	⊙	○	⊙		○
⊙	○	○	○		⊙		○	⊙	○	⊙	⊙	○
⊙	⊙	⊙	⊙		⊙	○	⊙	○	⊙	○		○



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SELECTION OF END MILLS

END MILLS Z=3		Z	Page	Roughing	Finishing	CARBIDE	TiAIN	XIDUR	CUTINOX	DIXAL	DLC*	DIAMANT
DIXI 7333-3D Ø 0.30 - 4.00		3	123	Roughing ●●●●●	Finishing ●●●●○	✓				✓		
DIXI 7333-5D Ø 0.30 - 3.00		3	123	Roughing ●●●●○	Finishing ●●●●○	✓				✓		
DIXI 7333-8D Ø 0.30 - 3.00		3	123	Roughing ●●●●○	Finishing ●●●●○	✓				✓		
DIXI 7543 Ø 1.00 - 12.00		3	124	Roughing ●●●●○	Finishing ●●●●○			✓				
DIXI 7583 Ø 0.30 - 6.00		3	125	Roughing ●●●●○	Finishing ●●●●○	✓	✓				✓*	
DIXI 7253 Ø 3.00 - 16.00		3	126	Roughing ●●●●●	Finishing ●●●●○				✓			
DIXI 7563 Ø 4.00 - 20.00		3	126	Roughing ●●●●○	Finishing ●●●●●					✓		
DIXI 7563-FC Ø 6.00 - 20.00		3	126	Roughing ●●●●○	Finishing ●●●●●					✓		
DIXI 7273 Ø 3.00 - 20.00		3	127	Roughing ●●●●○	Finishing ●●●●●	✓	✓					
DIXI 7593 Ø 6.00 - 20.00		3-4	127	Roughing ●●●●○	Finishing ●●●●○	✓						
END MILLS Z=4												
DIXI 7244 Ø 0.40 - 20.00		4	128	Roughing ●●●●○	Finishing ●●●●○	✓	✓					✓*
DIXI 7204 Ø 2.00 - 6.00		4	129	Roughing ●●●●○	Finishing ●●●●○	✓	✓					
DIXI 7224 Ø 3.00 - 20.00		4	129	Roughing ●●●●○	Finishing ●●●●○	✓	✓					✓*



○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
⊙	⊙	⊙	⊙		⊙	○	⊙	○	⊙	○		○
⊙	⊙	⊙	⊙		⊙	○	⊙	○	⊙	○		○
⊙	⊙	⊙	⊙		⊙	○	⊙	○	⊙	○		○
⊙	○	○	○		○		○					
○	○	○	○		○		○	○	○	⊙		○
○	⊙	⊙	⊙		○	⊙	⊙					
								○	○	⊙		○
								○	○	⊙		○
⊙	○				○		○	○	○	⊙		○
										⊙		

⊙	○	○	○		⊙		○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙		○	⊙	○	⊙		○
⊙	○				○		○	⊙	○	⊙	⊙	○

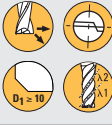
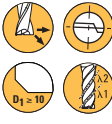


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SELECTION OF END MILLS

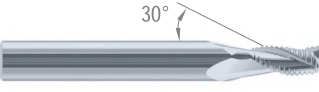
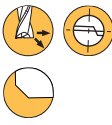
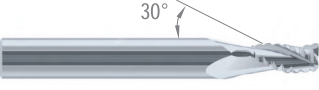
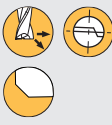
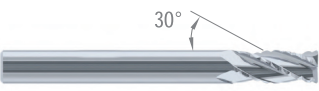
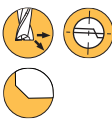
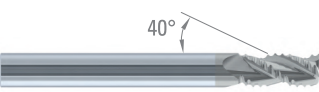
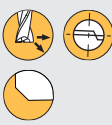
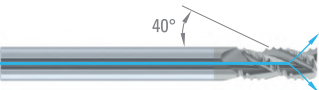
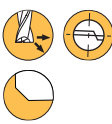
END MILLS Z=4

	Z	Page	Roughing Finishing		<input type="checkbox"/> CARBIDE	<input type="checkbox"/> TiAIN	<input type="checkbox"/> XIDUR	<input type="checkbox"/> CUTINOX	<input type="checkbox"/> DAC	<input type="checkbox"/> DLC*
DIXI 7264 Ø 1.50 - 20.00 	4	130	Roughing ●●●●○ Finishing ●●●●●					✓		
DIXI 7264-3D Ø 6.00 - 20.00 	4	130	Roughing ●●●●○ Finishing ●●●●●					✓		
DIXI 7254 Ø 3.00 - 16.00 	4	131	Roughing ●●●●● Finishing ●●●●○					✓		

MULTI-TOOTH END MILLS

DIXI 7560 Ø 0.35 - 20.00 	3-8	132	Roughing ●○○○○ Finishing ●●●●●		✓	✓				✓*
DIXI 7520 Ø 0.40 - 16.00 	3-10	133	Roughing ●○○○○ Finishing ●●●●●				✓			

ROUGHING END MILLS

DIXI 7210 Ø 3.00 - 12.00 	3	134	Roughing ●●●●● Finishing ○○○○○		✓			✓		
DIXI 7213 Ø 4.00 - 20.00 	3	134	Roughing ●●●●○ Finishing ○○○○○		✓	✓				
DIXI 7214 Ø 6.00 - 20.00 	4	135	Roughing ●●●●○ Finishing ○○○○○		✓	✓				
DIXI 7215 Ø 6.00 - 16.00 	3	135	Roughing ●●●●● Finishing ○○○○○						✓	
DIXI 7215-FC Ø 6.00 - 16.00 	3	135	Roughing ●●●●● Finishing ○○○○○						✓	

HIGH FEED END MILLS

DIXI 7702 Ø 0.50 - 12.00 	2	136	Roughing ●○○○○ Finishing ●●●●●				✓			
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○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
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○	⊙	⊙	⊙		○	⊙	⊙					
○	⊙	⊙	⊙		○	⊙	⊙					
○	⊙	⊙	⊙		○	⊙	⊙					

⊙	⊙	○	⊙		⊙	○	○	⊙	⊙			
		○		⊙		○						

⊙	⊙	○	⊙		⊙		⊙	○	○	⊙		
⊙	○	○	○		⊙		○	○	○	○		
⊙	○	○	○		⊙		○	○	○	○		
								○	○	⊙		
								○	○	⊙		

⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○		
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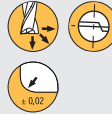

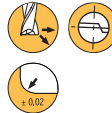
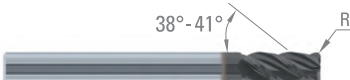


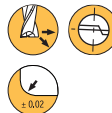

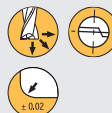
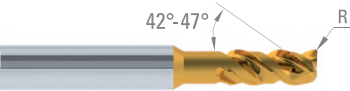

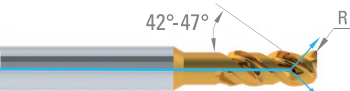



✓ = item from stock

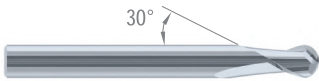
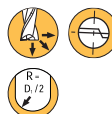

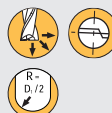
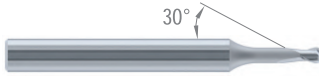
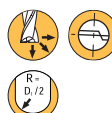

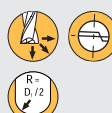

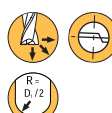

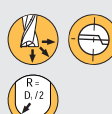
* = for non-ferrous material

SELECTION OF END MILLS

END MILLS WITH CORNER RADIUS

	Z	Page	Roughing Finishing		CARBIDE	TiAIN	DICUT	XIDUR	CUTINOX	DIXAL	DIAMANT*
DIXI 7237-10 Ø 0.40 - 3.00 	2	137	Roughing ●●●●○ Finishing ●●●●○		✓	✓					
DIXI 7070 Ø 3.00 - 12.00 	4 - 6	138	Roughing ●●●○● Finishing ●●●●●					✓			
DIXI 7265 Ø 2.00 - 12.00 	4	139	Roughing ●●●●○ Finishing ●●●●●						✓		
DIXI 7554 Ø 2.00 - 12.00 	4	140	Roughing ●●●○● Finishing ●●●●○		✓	✓					
DIXI 7552 Ø 3.00 - 16.00 	2	140	Roughing ●●●○● Finishing ●●●●○		✓		✓				
DIXI 7565 Ø 4.00 - 20.00 	3	141	Roughing ●●●○● Finishing ●●●●○							✓	
DIXI 7565-FC Ø 6.00 - 20.00 	3	141	Roughing ●●●○● Finishing ●●●●○							✓	

BALL-NOSE END MILLS

DIXI 7032 Ø 0.06 - 20.00 	2	142	Roughing ●●●○● Finishing ●●●●○		✓	✓	✓				✓*
DIXI 7042 Ø 2.00 - 20.00 	2	143	Roughing ●●●○● Finishing ●●●●○		✓	✓					✓*
DIXI 7046 Ø 0.20 - 12.00 	2	144	Roughing ●●●○● Finishing ●●●●○		✓	✓	✓				✓*
DIXI 7045 Ø 0.20 - 12.00 	2	145	Roughing ●●●○● Finishing ●●●●○		✓	✓	✓				✓*
DIXI 7047-8D Ø 0.20 - 12.00 	2	145	Roughing ●●●○● Finishing ●●●●○		✓	✓	✓				✓*
DIXI 7047-10D Ø 0.20 - 12.00 	2	145	Roughing ●●●○● Finishing ●●●●○		✓	✓	✓				✓*



○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
⊙	○	○	○		⊙	○	⊙	⊙	⊙	○		○
		○		⊙		○						
⊙	○	○	○		⊙		⊙	○	○	○		○
⊙	○	○	○		⊙		⊙	○	○	○		○
○	○				○		⊙	○	⊙	○		○
								○	○	⊙		○
								○	○	⊙		○

⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	⊙
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	⊙
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○



✓ = item from stock

* = for non-ferrous material

SELECTION OF END MILLS

BALL-NOSE END MILLS

	Z	Page	Roughing Finishing		<input type="checkbox"/> CARBIDE	<input checked="" type="checkbox"/> TiAIN	<input checked="" type="checkbox"/> DICUT	<input checked="" type="checkbox"/> XIDUR	<input checked="" type="checkbox"/> DIAMANT*
DIXI 7047-12D Ø 0.20 - 5.00	2	145	Roughing ○○○○○ Finishing ●●●●○		✓	✓	✓		✓*
DIXI 7047-15D Ø 0.20 - 4.00	2	145	Roughing ○○○○○ Finishing ●●●●○		✓	✓	✓		✓*
DIXI 7047-18D Ø 0.20 - 3.00	2	145	Roughing ○○○○○ Finishing ●●●●○		✓	✓	✓		✓*
DIXI 7532 Ø 0.20 - 8.00	2	147	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7532-3D Ø 0.20 - 10.00	2	148	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7532-5D Ø 0.20 - 10.00	2	148	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7532-8D Ø 0.20 - 4.00	2	148	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7532-10D Ø 0.40 - 3.00	2	148	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7532-12D Ø 0.50 - 2.00	2	148	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7532-15D Ø 0.60 - 2.00	2	148	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7542 Ø 1.00 - 12.00	2	149	Roughing ○○○○○ Finishing ●●●●○					✓	
DIXI 7033 Ø 1.00 - 10.00	3	150	Roughing ○○○○○ Finishing ●●●●○		✓	✓			
DIXI 7034 Ø 8.00 - 20.00	4	150	Roughing ○○○○○ Finishing ●●●●○		✓	✓			




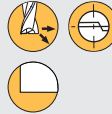
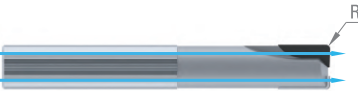
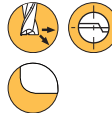



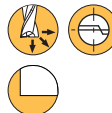



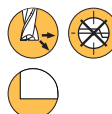

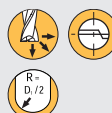
○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○
⊙	⊙	⊙	⊙		○	○	⊙	○	⊙	○	⊙	○
		○		⊙		○						
		○		⊙		○						
		○		⊙		○						
		○		⊙		○						
		○		⊙		○						
		○		⊙		○						
		○		⊙		○						
⊙	⊙	⊙	○		⊙	○	○	⊙		⊙		⊙
⊙	⊙	⊙	○		⊙	○	○	○	○	○		○

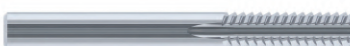
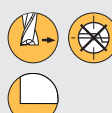


SELECTION OF END MILLS

✓ = item from stock

DIAMOND & PCD MILLING CUTTERS		Z	Page	Roughing Finishing		<input type="checkbox"/> CARBIDE	<input checked="" type="checkbox"/> PCD	<input checked="" type="checkbox"/> DIA
DIXI 72420-SH Ø 1.00 - 20.00		1 - 2	384	Roughing ●●●●● Finishing ●●●●●			✓	
DIXI 70520-SH Ø 1.00 - 20.00		1 - 2	385	Roughing ●●●●● Finishing ●●●●●			✓	
DIXI 70600 PCD Ø 1.00 - 10.00		1	386	Roughing ●●●●● Finishing ●●●●●			✓	
DIXI 70600 DIA Ø 3.00 - 6.00		1	386	Roughing ○●●●○ Finishing ●●●●●				✓
DIXI 72310 DIA Ø 0.30 - 2.00		1	387	Roughing ○●●●○ Finishing ●●●●●				✓
DIXI 72421 DIA Ø 6.00 - 12.00		1	388	Roughing ○●●●○ Finishing ●●●●●				✓
DIXI 70320-SH Ø 2.00 - 20.00		1 - 2	389	Roughing ●●●●● Finishing ●●●●●			✓	

ROUTERS FOR COMPOSITES / KEVLAR®

DIXI 7112 Ø 5.00 - 12.70		2	151	Roughing ●●●●○ Finishing ●●●●○		✓		
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○ good ⊙ excellent

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
								⊙	⊙	⊙	⊙	⊙
								⊙	⊙	⊙	⊙	⊙
								⊙	⊙	⊙	⊙	⊙
								⊙	○	⊙		⊙
								⊙	○	⊙		⊙
												⊙
								⊙	⊙	⊙	⊙	⊙

Kevlar®

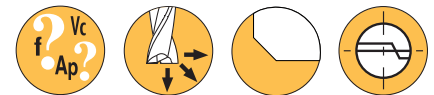
												⊙
--	--	--	--	--	--	--	--	--	--	--	--	---



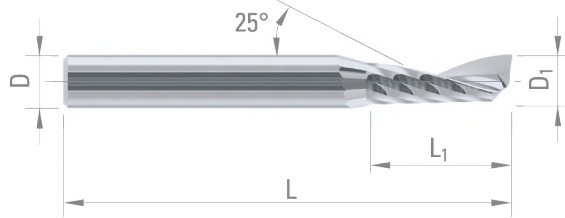
DIXI 7561

SINGLE FLUTE END MILLS FOR ALUMINIUM

Z = 1



P. 202



Cu alloy
Silver
Gold

Al


Plastic

Roughing



Finishing



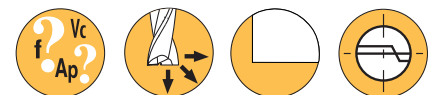
D_1 e8		L_1	D_{h5}	L	CARBIDE	DLC*
2.00	0.10 x 45°	4.0	3	38	46560	971284
3.00	0.15 x 45°	6.0	3	38	46561	971285
4.00	0.15 x 45°	12.0	4	50	46562	971286
5.00	0.15 x 45°	14.0	5	50	46563	960345
6.00	0.20 x 45°	16.0	6	50	46564	967038
8.00	0.20 x 45°	20.0	8	60	46565	992675
10.00	0.20 x 45°	22.0	10	70	46566	996345
12.00	0.20 x 45°	25.0	12	70	46567	965525

* for non-ferrous material

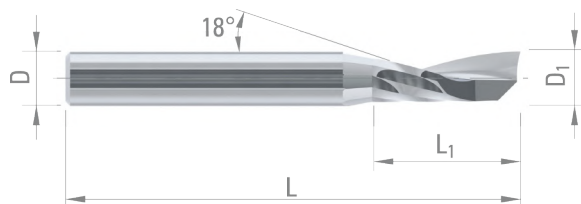
DIXI 7301

SINGLE FLUTE END MILLS FOR PLASTIC SHORT SERIES

Z = 1



P. 184



Plastic

Roughing



Finishing

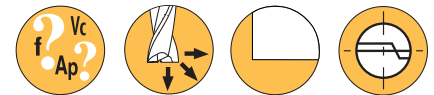


D_1 e8	L_1	D_{h5}	L	CARBIDE
2.00	6.0	3	38	965241
3.00	12.0	3	50	963955
4.00	16.0	4	50	964011
5.00	16.0	5	50	964012

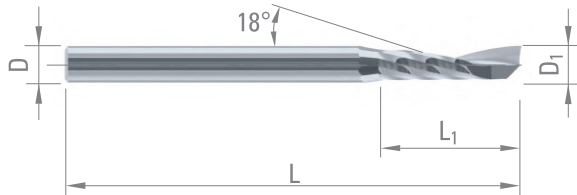
DIXI 7302

SINGLE FLUTE END MILLS, LONG SERIES

Z = 1



P. 184



Plastic

Roughing



Finishing

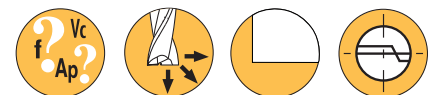


$D_{1\ e8}$	L_1	D_{h5}	L	CARBIDE
3.00	17.0	3	61	963956
4.00	23.0	4	61	964031
5.00	23.0	5	61	964032
6.00	23.0	6	75	964033
8.00	32.0	8	75	964034
10.00	33.0	10	75	964093
12.00	33.0	12	100	964094

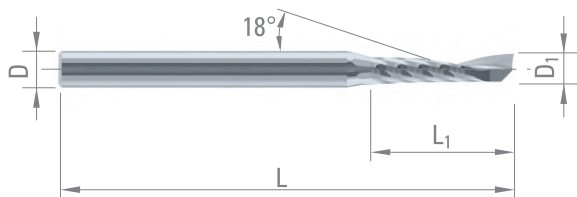
DIXI 7303

SINGLE FLUTE END MILLS, LONG SERIES
REINFORCED SHANK

Z = 1



P. 184



Plastic

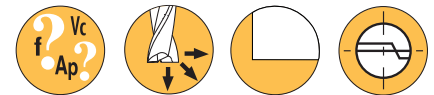
Roughing



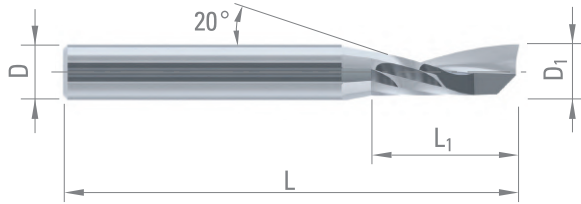
Finishing



$D_{1\ e8}$	L_1	D_{h5}	L	CARBIDE
2.00	8.0	6	50	964147
3.00	18.0	6	75	963957
4.00	23.0	6	75	964079



P. 184



Plastic

Roughing



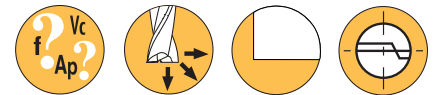
Finishing



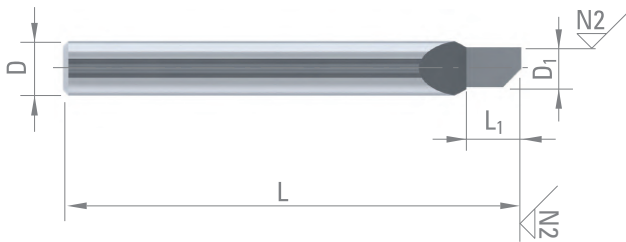
$D_{1\ e8}$	L_1	D_{h5}	L	CARBIDE
1.00	4.0	3	30	305388
1.50	6.0	3	30	305390
2.00	8.0	3	30	305391
	8.0	6	58	974194
2.50	10.0	6	58	974195
	10.0	6	58	974197
3.00	10.0	3	58	974198
	15.0	3	58	974199
	20.0	3	58	305392
	10.0	6	58	974200
	15.0	6	58	974201
	20.0	6	58	305393
4.00	12.0	4	58	974206
	15.0	4	58	305394
	22.0	4	58	974207
	30.0	4	75	305395
	12.0	6	58	974208
5.00	22.0	6	58	974209
	14.0	5	58	974214
	22.0	5	58	974215
	14.0	6	58	974216
6.00	22.0	6	58	974217
	16.0	6	58	974222
	22.0	6	58	305778
8.00	32.0	6	75	974223
	38.0	6	80	305396
	22.0	8	64	974227
10.00	30.0	8	80	974228
	38.0	8	80	974229
	42.0	8	80	305397
12.00	30.0	10	80	974230
		12	83	974231

STRAIGHT FLUTE SLOT DRILLS

Z = 1



P. 186



Cast iron

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

Plastic

Roughing

●●●●○

Finishing

●●●●○

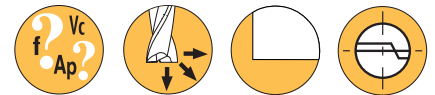
$D_{1 \pm 0.01}$	L_1	D_{h5}	L	CARBIDE
0.50	1.0	4	35	965456
0.60	1.2	4	35	965457
0.70	1.5	4	35	965458
0.80	1.5	4	35	960645
0.90	1.5	4	35	960646
1.00	1.5	4	35	960647
1.00 >	2.5	4	35	964328
1.10	2.0	4	35	960648
1.20	2.0	4	35	960649
1.30	2.0	4	35	960650
1.40	2.0	4	35	960651
1.50	2.0	4	35	960652
1.60	2.0	4	35	960653
1.70	2.5	4	35	960654
1.80	2.5	4	35	960655
1.90	2.5	4	35	960656
2.00	2.5	4	35	960657
2.50	3.0	4	35	960658
3.00	3.5	4	42	960659
3.50	4.0	4	42	960660
4.00	5.0	4	42	960661
4.50	6.0	6	50	960662
5.00	7.0	6	50	960663
6.00	7.0	8	50	960664



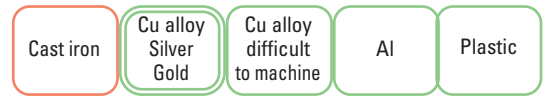
DIXI 7063

SINGLE FLUTE END MILLS 3/4

Z = 1

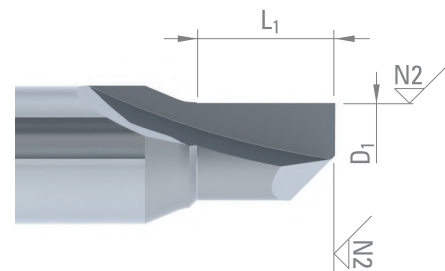
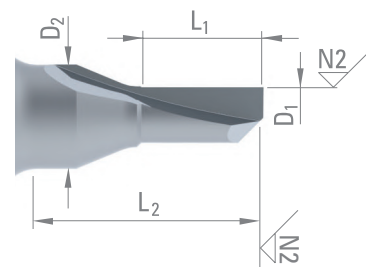


P. 186



$D_{1 \pm 0.01}$	L_1	D_2	L_2	D_{h5}	L	CARBIDE
0.40	0.8	1.5	4.6	4	35	987593
0.50	1.0	1.5	4.6	4	35	983250
0.60	1.2	1.5	4.6	4	35	987594
0.70	1.5	1.5	4.6	4	35	987595
0.80	1.5	1.5	4.6	4	35	987596
0.90	1.5	2.0	5.1	4	35	987581
1.00	1.5	2.0	5.1	4	35	983251
1.00 >	2.5	2.0	5.1	4	35	987582
1.10	2.5	2.0	6.0	4	35	987597
1.20	2.5	2.0	6.0	4	35	987598
1.30	2.5	3.0	6.0	4	35	987599
1.40	2.5	3.0	6.0	4	35	987583
1.50	2.5	3.0	6.0	4	35	983252
1.50 >	3.5	3.0	6.5	4	35	987600
1.60	3.5	3.0	6.5	4	35	987585
1.70	3.5	3.0	6.5	4	35	987586

$D_{1 \pm 0.01}$	L_1	D_{h5}	L	CARBIDE
1.80	3.5	4	35	987601
1.90	3.5	4	35	987602
2.00	4.0	4	35	983253
2.20	4.0	4	35	987603
2.50	4.0	4	35	987604
2.80	4.0	4	35	987605
3.00	4.0	4	35	983254
4.00	5.0	4	35	987584



DIXI 7242

SLOT DRILLS REINFORCED SHANK

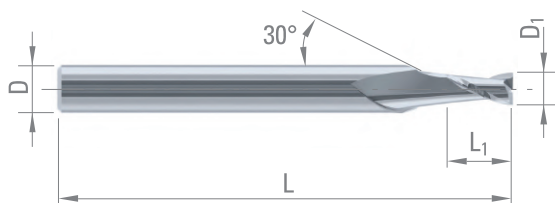
Z = 2



P. 162



$D_1 > 6$



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

Roughing: ●●●○
Finishing: ●●●○

D_1	L_1	D_{h5}	L	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					
0.10	0.25	3	38	334534	
0.15	0.3	3	38	52628	64920
0.20	0.4	3	38	45705	60021
0.25	0.6	3	38	47916	64921
0.30	0.6	3	38	42172	60121
0.30 >	1.0	3	38	48850	60122
0.35	0.8	3	38	47917	950699
0.40	0.8	3	38	42126	60123
0.40 >	2.0	3	38	48851	60124
0.45	1.0	3	38	47918	952421
0.50	1.0	3	38	35241	36230
0.50 >	2.5	3	38	48852	60125
0.55	1.2	3	38	47921	952422
0.60	1.2	3	38	35242	36231
0.60 >	3.0	3	38	48853	60126
0.65	1.4	3	38	47922	952423
0.70	1.4	3	38	35243	36232
0.70 >	3.5	3	38	48854	57162
0.75	1.6	3	38	47923	57163
0.80	1.6	3	38	35244	36233
0.80 >	4.0	3	38	48855	57164
0.85	1.8	3	38	47066	57165
0.90	1.8	3	38	35245	36234
0.90 >	4.5	3	38	48856	57166
0.95	2.0	3	38	42846	57167
1.00	2.0	3	38	35246	36235
1.00 >	5.0	3	38	42735	55950
1.05	2.2	3	38	47924	57168
1.10	2.2	3	38	35247	57169
1.15	2.4	3	38	47925	57170
1.20	2.4	3	38	35248	36237
1.20 >	6.0	3	38	48857	57171
1.25	2.6	3	38	47926	57172
1.30	2.6	3	38	35249	57173
1.35	2.8	3	38	47927	57174
1.40	2.8	3	38	35250	36239
1.45	3.0	3	38	47928	57175
1.50	3.0	3	38	38489	36240
1.50 >	7.0	3	38	48858	57176

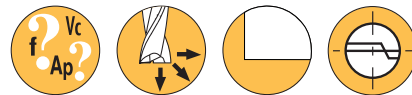
D_1	L_1	D_{h5}	L	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					
1.60	3.2	3	38	38490	57177
1.70	3.4	3	38	38491	44939
1.80	3.6	3	38	42096	38613
1.90	4.0	3	38	38493	57178
2.00	6.0	3	38	42784	39577
2.10	7.0	3	38	44058	64794
2.20	7.0	3	38	43956	64795
2.30	7.0	3	38	44877	60627
2.40	7.0	3	38	43527	64796
2.50	7.0	3	38	42201	36242
3.00	7.0	6	57	41806	46440
3.50	7.0	6	57	43353	57179
4.00	8.0	6	57	41856	57180
4.50	8.0	6	57	42202	57181
5.00	10.0	6	57	41996	36247
5.50	10.0	6	57	41807	57182
6.00	10.0	6	57	41907	57183
6.50	13.0	8	63	28932	57184
7.00	13.0	8	63	28933	57185
7.50	16.0	8	63	28934	57186
8.00	16.0	8	63	42271	57187
8.50	16.0	10	72	28936	57195
9.00	16.0	10	72	28937	57196
9.50	19.0	10	72	43038	57197
10.00	19.0	10	72	42352	57198
12.00	22.0	12	83	39944	57199
16.00	26.0	16	92	42354	57201
18.00	26.0	18	92	42355	57202
20.00	32.0	20	104	42356	57203



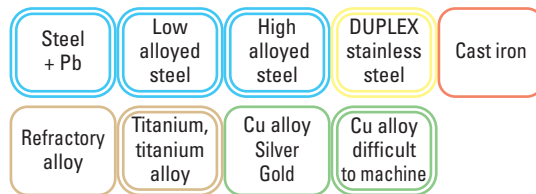
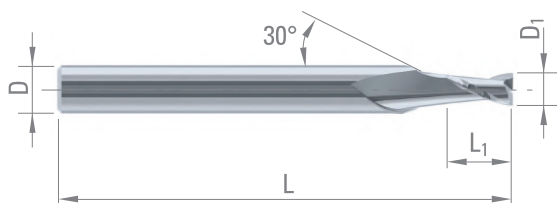
DIXI 7342

SLOT DRILLS REINFORCED SHANK

Z = 2



P. 188
P. 190



Roughing



Finishing



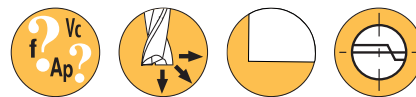
D ₁	L ₁	D _{h5}	L	CARBIDE	C-TOP
Ø < 0.10 - 0/-0.01					
Ø < 2.00 - 0/-0.02					
Ø ≥ 6.00 - e8					

0.10	0.15	4	38	334850	334910
0.15	0.23	4	38	334851	334911
0.20	0.30	4	38	334852	334912
0.25	0.38	4	38	334853	334913
0.30	0.45	4	38	334854	334914
0.35	0.53	4	38	334855	334915
0.40	0.60	4	38	334856	334916
0.50	0.75	4	38	334857	334917
0.60	0.90	4	38	334858	334918
0.70	1.05	4	38	334859	334919
0.80	1.20	4	38	334860	334920
0.90	1.35	4	38	334861	334921
1.00	1.50	4	38	334862	334922
1.10	1.65	4	38	334863	334923
1.20	1.80	4	38	334864	334924
1.30	1.95	4	38	334865	334925
1.40	2.10	4	38	334866	334926
1.50	2.25	4	38	334867	334927
1.60	2.40	4	38	334868	334928
1.70	2.55	4	38	334869	334929
1.80	2.70	4	38	334870	334930
1.90	2.85	4	38	334871	334931
2.00	3.00	4	38	334872	334932
2.50	3.75	4	38	334873	334933
3.00	4.50	6	55	334874	334934
4.00	6.00	6	55	334875	334935
5.00	7.50	6	55	334876	334936
6.00	9.00	6	55	334877	334937
8.00	12.00	8	64	334878	334938
10.00	15.00	10	67	334879	334939
12.00	18.00	12	74	334880	334940

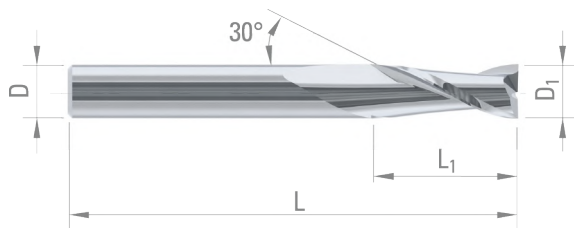


SLOT DRILLS

Z = 2



P. 162



Steel + Pb	Low alloyed steel	DUPLEX stainless steel	Titanium, titanium alloy	Cu alloy Silver Gold
Cu alloy difficult to machine	Al	Graphite	Plastic	

Roughing
●○○○○○

Finishing
●●●○○○

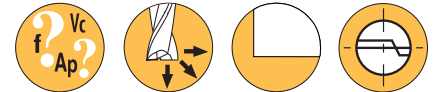
D₁ e8
 Ø < 2.00 - 0/-0.01
 Ø ≥ 2.00 - e8

D ₁ e8	L ₁	D _{h5}	L	CARBIDE	TiAlN	DIAMANT
1.50	6	2.0	32	690	57063	
2.00	8	2.0	32	691	57064	61616
2.50	8	2.5	32	692	57065	
3.00	10	3.0	38	693	57066	36199
3.50	12	3.5	38	34760	57067	
4.00	12	4.0	50	694	57068	63847
4.50	12	4.5	50	41135	57069	
5.00	14	5.0	50	34623	57070	
6.00	16	6.0	50	34624	57071	
7.00	18	7.0	60	29769	57072	
8.00	20	8.0	63	698	57073	67513
9.00	20	9.0	67	43726		
10.00	22	10.0	72	699	57075	
11.00	22	11.0	73	28686		
12.00	22	12.0	73	30940	57077	

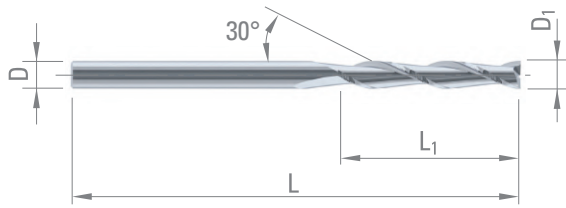


SLOT DRILLS
LONG SERIES

Z = 2



P. 178



Steel + Pb	Low alloyed steel	DUPLEX stainless steel	Titanium, titanium alloy	Cu alloy Silver Gold
Cu alloy difficult to machine	Al	Graphite	Plastic	

Roughing
●○○○○

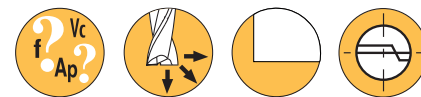
Finishing
●●●○○

D_1 e8	L_1	D_{h5}	L	CARBIDE	TiAlN	DIAMANT
3.00	30.0	3	60	44756	57124	60231
4.00	30.0	4	60	44757	57125	60232
5.00	35.0	5	75	44758	57133	60233
6.00	40.0	6	100	44759	57134	60234
8.00	40.0	8	100	44760	57135	60235
10.00	40.0	10	100	44761	57136	60236
12.00	45.0	12	100	44762	57137	60237
16.00	65.0	16	150	44764		
20.00	65.0	20	150	44766	57140	

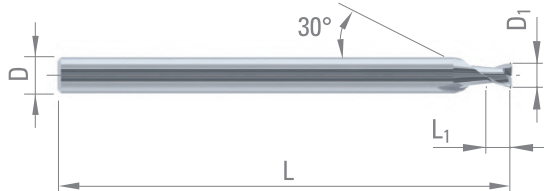


SLOT DRILLS, EXTRA SHORT REINFORCED SHANK

Z = 2



P. 162



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing		Finishing	
	●●●●○		●●●●○	

D ₁	L ₁	D _{h5}	L	CARBIDE	TiAlN
Ø < 2.00 - 0/-0.01					
Ø < 3.00 - 0/-0.02					
Ø ≥ 3.00 - e8					

0.04	0.04	3	38	954084	
0.05	0.05	3	38	954085	
0.06	0.06	3	38	951973	
0.07	0.07	3	38	954087	
0.08	0.08	3	38	954086	
0.09	0.09	3	38	954089	
0.10	0.10	3	38	63609	64354
0.12	0.12	3	38	954090	956316
0.15	0.15	3	38	63608	64355
0.20	0.20	3	38	63610	64356
0.25	0.25	3	38	63678	64357
0.30	0.30	3	38	63679	64253
0.35	0.35	3	38	63680	64358
0.40	0.40	3	38	56551	61443
0.45	0.45	3	38	63681	64359
0.50	0.50	3	38	63682	64254
0.55	0.55	3	38	63683	64360
0.60	0.60	3	38	45571	64361
0.65	0.65	3	38	63684	64362
0.70	0.70	3	38	63685	64363
0.75	0.75	3	38	63686	64364
0.80	0.80	3	38	63687	64255
0.85	0.85	3	38	63688	64365
0.90	0.90	3	38	63689	62538
0.95	0.95	3	38	63690	64366
1.00	1.00	3	38	50547	64367
1.05	1.05	3	38	63691	64368
1.10	1.10	3	38	63692	64369
1.15	1.15	3	38	63805	64370
1.20	1.20	3	38	63806	64371
1.25	1.25	3	38	63807	64372
1.30	1.30	3	38	63808	64373
1.35	1.35	3	38	63809	64374
1.40	1.40	3	38	63810	64375
1.45	1.45	3	38	63811	64376

D ₁	L ₁	D _{h5}	L	CARBIDE	TiAlN
Ø < 2.00 - 0/-0.01					
Ø < 3.00 - 0/-0.02					
Ø ≥ 3.00 - e8					

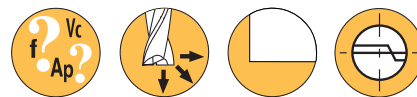
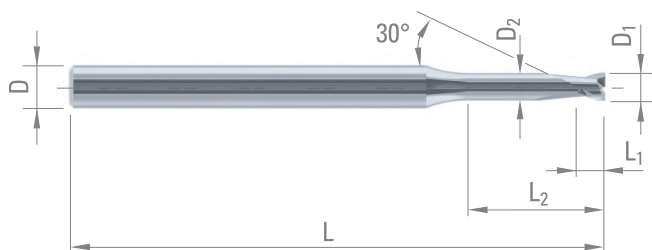
1.50	1.50	3	38	50548	56840
1.55	1.55	3	38	63812	64377
1.60	1.60	3	38	63813	64378
1.65	1.65	3	38	63814	64379
1.70	1.70	3	38	63815	64380
1.75	1.75	3	38	63816	64381
1.80	1.80	3	38	63817	64382
1.85	1.85	3	38	63818	64383
1.90	1.90	3	38	63819	64384
1.95	1.95	3	38	63820	64385
2.00	2.00	6	50	63821	64386
2.10	2.10	6	50	63823	64387
2.20	2.20	6	50	63824	64388
2.30	2.30	6	50	63825	64389
2.40	2.40	6	50	63826	64390
2.50	2.50	6	50	63827	64391
3.00	3.00	6	50	63828	64392
3.50	3.50	6	50	63829	64393
4.00	4.00	6	50	63830	64394
4.50	4.50	6	50	63831	64395
5.00	5.00	6	50	63832	64397
5.50	5.50	6	50	63833	64398



DIXI 7237 - 7238 - 7239 - 7239-D

SLOT DRILLS, EXTRA SHORT
NECKED DOWN

Z = 2



P. 162
P. 164

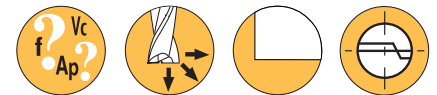
Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing ●●●●○		Finishing ●●●●○	

D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	TiAIN
0.15	0.15	0.13	3	38	0.45	7237	66047	66149
0.20	0.20	0.17	3	38	0.60	7237	66068	66150
0.25	0.25	0.22	3	38	0.75	7237	66070	66151
0.30	0.30	0.27	3	38	0.90	7237	66071	66152
					1.50	7238	66196	66254
0.35	0.35	0.32	3	38	1.05	7237	66072	66153
					1.75	7238	66197	66255
0.40	0.40	0.37	3	38	1.20	7237	66073	66154
					2.00	7238	66199	66256
					3.20	7239	66296	66355
0.45	0.45	0.42	3	38	1.35	7237	66074	66155
					2.25	7238	66201	66257
					3.60	7239	66297	66356
0.50	0.50	0.45	3	38	1.50	7237	66075	66156
					2.50	7238	66202	66258
					4.00	7239	66298	66357
					5.00	7239-10D	978569	979371
					6.00	7239-12D	979313	979447
0.55	0.55	0.50	3	38	7.50	7239-15D	979475	979497
					1.65	7237	66076	66157
					2.75	7238	66203	66259
					4.40	7239	66299	66358
					5.50	7239-10D	979332	979373
0.60	0.60	0.55	3	38	6.60	7239-12D	979413	979448
					8.25	7239-15D	979478	979498
					1.80	7237	66077	66158
					3.00	7238	66205	66260
					4.80	7239	66300	66366
0.65	0.65	0.60	3	38	6.00	7239-10D	979333	979374
					7.20	7239-12D	979416	979449
					9.00	7239-15D	979480	979499
					1.95	7237	66078	66159
					3.25	7238	66206	66261
0.70	0.70	0.65	3	38	5.20	7239	66301	66367
					6.50	7239-10D	979334	979375
					7.80	7239-12D	979417	979450
					9.75	7239-15D	979482	979500
					2.10	7237	66079	66160
0.75	0.75	0.70	3	38	3.50	7238	66207	66262
					5.60	7239	66302	66368
					7.00	7239-10D	979335	979376
					8.40	7239-12D	979419	979451
					10.50	7239-15D	979483	979503
0.80	0.80	0.75	3	38	2.25	7237	66080	66161
					3.75	7238	66208	66263
					6.00	7239	66303	66369
					7.50	7239-10D	979336	979377
					9.00	7239-12D	979420	979452
0.80	0.80	0.75	3	38	11.25	7239-15D	979484	979505
					2.40	7237	66081	66162
					4.00	7238	66209	66264
					6.40	7239	66304	66370
					8.00	7239-10D	979337	979378
0.80	0.80	0.75	3	38	9.60	7239-12D	979421	979453
					12.00	7239-15D	979485	979506

- DIXI 7237** L₂ = 3 x D₁
- DIXI 7238** L₂ = 5 x D₁
- DIXI 7239** L₂ = 8 x D₁
- DIXI 7239-10D** L₂ = 10 x D₁
- DIXI 7239-12D** L₂ = 12 x D₁
- DIXI 7239-15D** L₂ = 15 x D₁



DIXI 7237 - 7238 - 7239 - 7239-D



P. 162
P. 164

D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	TiAIN
0.85	0.85	0.80	3	38	2.55	7237	66082	66164
					4.25	7238	66210	66265
					6.80	7239	66305	66371
					8.50	7239-10D	979338	979409
					10.20	7239-12D	979423	979454
					12.75	7239-15D	979486	979507
					2.70	7237	66083	66165
					4.50	7238	66211	66266
					7.20	7239	66306	66372
					9.00	7239-10D	979339	979379
0.90	0.90	0.85	3	38	10.80	7239-12D	979430	979455
					13.50	7239-15D	979487	979509
					2.85	7237	66084	66166
					4.75	7238	66212	66267
					7.60	7239	66307	66373
					9.50	7239-10D	979340	979380
					11.40	7239-12D	979431	979456
					14.25	7239-15D	979488	979510
					3.00	7237	66110	66167
					5.00	7238	66213	66268
1.00	1.00	0.95	3	38	8.00	7239	66308	66374
					10.00	7239-10D	979341	979381
					12.00	7239-12D	979206	979457
					15.00	7239-15D	979489	979511
					3.15	7237	66113	66168
					5.25	7238	66214	66269
					8.40	7239	66309	66375
					10.50	7239-10D	979342	979382
					12.60	7239-12D	979432	979458
					15.75	7239-15D	979490	979512
1.05	1.05	1.00	3	38	3.30	7237	66115	66169
					5.50	7238	66218	66270
					8.80	7239	66310	66376
					11.00	7239-10D	979343	979383
					13.20	7239-12D	979433	979459
					16.50	7239-15D	979491	979513
					3.45	7237	66116	66170
					5.75	7238	66219	66271
					9.20	7239	66313	66377
					11.50	7239-10D	979344	979384
13.80	7239-12D	979434	979460					
1.10	1.10	1.05	3	38	17.25	7239-15D	979492	979514
					3.60	7237	66117	66171
					6.00	7238	66220	66272
					9.60	7239	66314	66378
					12.00	7239-10D	979345	979385
					14.40	7239-12D	979435	979461
					18.00	7239-15D	979493	979515
					3.75	7237	66118	66172
					6.25	7238	66221	66273
					10.00	7239	66315	66379
12.50	7239-10D	979346	979386					
1.15	1.15	1.10	3	38	15.00	7239-12D	979437	979462
					18.75	7239-15D	979494	979516
					3.90	7237	66119	66173
					6.50	7238	66222	66274
					10.40	7239	66316	66380
					13.00	7239-10D	979347	979387
					15.60	7239-12D	979438	979463
					19.50	7239-15D	979495	979517
					4.05	7237	66120	66174
					6.75	7238	66223	66275
10.80	7239	66317	66381					
1.20	1.20	1.15	3	38	13.50	7239-10D	979348	979388
					16.20	7239-12D	979439	979464
					20.25	7239-15D	979496	979518
					3.75	7237	66118	66172
					6.25	7238	66221	66273
					10.00	7239	66315	66379
					12.50	7239-10D	979346	979386
					15.00	7239-12D	979437	979462
					18.75	7239-15D	979494	979516
					3.90	7237	66119	66173
6.50	7238	66222	66274					
10.40	7239	66316	66380					
1.25	1.25	1.20	3	38	13.00	7239-10D	979347	979387
					15.60	7239-12D	979438	979463
					19.50	7239-15D	979495	979517
					4.05	7237	66120	66174
					6.75	7238	66223	66275
					10.80	7239	66317	66381
					13.50	7239-10D	979348	979388
					16.20	7239-12D	979439	979464
					20.25	7239-15D	979496	979518

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing ●●●●○		Finishing ●●●●○	

DIXI 7237 L₂ = 3 x D₁

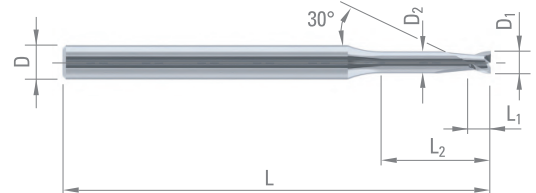
DIXI 7238 L₂ = 5 x D₁

DIXI 7239 L₂ = 8 x D₁

DIXI 7239-10D L₂ = 10 x D₁

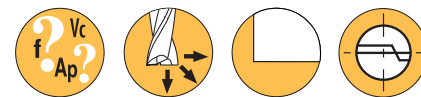
DIXI 7239-12D L₂ = 12 x D₁

DIXI 7239-15D L₂ = 15 x D₁

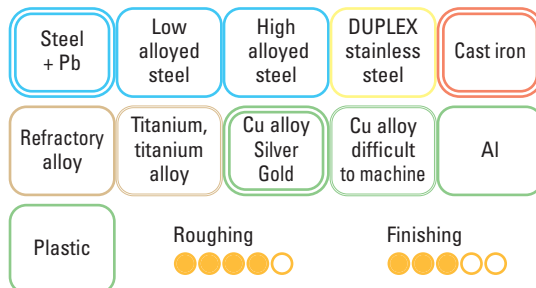


DIXI 7237 - 7238 - 7239 - 7239-D

D ₁	L ₁	D ₂	D _{H5}	L	L ₂	DIXI	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$ $\emptyset < 3.00 - 0/-0.02$ $\emptyset \geq 3.00 - e8$								
1.40	1.40	1.35	3	38	4.20	7237	66123	66175
					7.00	7238	66224	66276
					11.20	7239	66318	66382
					14.00	7239-10D	979349	979389
					16.80	7239-12D	979440	979465
1.45	1.45	1.35	3	38	4.35	7237	66124	66176
					7.25	7238	66225	66277
					11.60	7239	66319	66383
					14.50	7239-10D	979350	979390
					17.40	7239-12D	979441	979466
1.50	1.50	1.45	3	38	4.50	7237	66125	66177
					7.50	7238	66226	66278
					12.00	7239	66320	66384
					15.00	7239-10D	979351	979391
					18.00	7239-12D	979442	979467
1.55	1.55	1.50	3	38	4.65	7237	66126	66178
					7.75	7238	66227	66279
					12.40	7239	66323	66385
					15.50	7239-10D	979352	979392
					18.60	7239-12D	979443	979468
1.60	1.60	1.55	3	38	4.80	7237	66127	66179
					8.00	7238	66228	66280
					12.80	7239	66324	66386
					16.00	7239-10D	979353	979393
					19.20	7239-12D	979444	979469
1.65	1.65	1.60	3	38	4.95	7237	66128	66180
					8.25	7238	66229	66281
					13.20	7239	66325	66387
					16.50	7239-10D	979354	979394
					19.80	7239-12D	979445	979470
1.70	1.70	1.65	3	38	5.10	7237	66129	66182
					8.50	7238	66230	66282
					13.60	7239	66326	66388
					17.00	7239-10D	979355	979395
					20.40	7239-12D	979446	979471
1.75	1.75	1.70	3	38	5.25	7237	66130	66183
					8.75	7238	66231	66283
					14.00	7239	66327	66389
					17.50	7239-10D	979356	979396
					1.80	1.80	1.75	3
9.00	7238	66232	66284					
14.40	7239	66328	66390					
18.00	7239-10D	979357	979398					
1.85	1.85	1.80	3	38				
					9.25	7238	66233	66285
					14.80	7239	66329	66391
					18.50	7239-10D	979358	979399
					1.90	1.90	1.85	3
9.50	7238	66234	66286					
15.20	7239	66330	66392					
19.00	7239-10D	979359	979400					
1.95	1.95	1.90	3	38				
					9.75	7238	66235	66287
					15.60	7239	66333	66393
					19.50	7239-10D	979360	979401
					2.00	2.00	1.95	6
10.00	7238	66236	66288					
16.00	7239	66334	66394					
20.00	7239-10D	979361	979402					
2.10	2.10	2.00	6	50				
					10.50	7238	66237	66289
					16.80	7239	66335	66395
					21.00	7239-10D	979362	979403
					2.20	2.20	2.10	6
11.00	7238	66238	66290					
17.60	7239	66350	66396					
22.00	7239-10D	979363	979404					



P. 162
P. 164



DIXI 7237 $L_2 = 3 \times D_1$

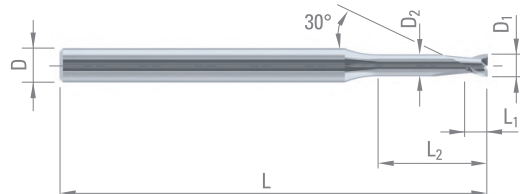
DIXI 7238 $L_2 = 5 \times D_1$

DIXI 7239 $L_2 = 8 \times D_1$

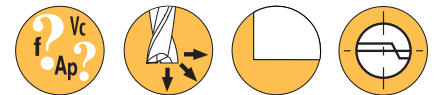
DIXI 7239-10D $L_2 = 10 \times D_1$

DIXI 7239-12D $L_2 = 12 \times D_1$

DIXI 7239-15D $L_2 = 15 \times D_1$



DIXI 7237 - 7238 - 7239 - 7239-D



P. 162
P. 164

D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$ $\emptyset < 3.00 - 0/-0.02$ $\emptyset \geq 3.00 - e8$								
2.30	2.30	2.20	6	50	6.90	7237	66139	66190
					11.50	7238	66239	66291
					18.40	7239	66351	66397
					23.00	7239-10D	979364	979405
					7.20	7237	66140	66191
2.40	2.40	2.30	6	50	12.00	7238	66240	66292
					19.20	7239	66352	66398
					24.00	7239-10D	979368	979406
					7.50	7237	66143	66192
					12.50	7238	66241	66293
2.50	2.50	2.40	6	50	20.00	7239	66353	66399
					25.00	7239-10D	979369	979407
					9.00	7237	66144	66193
					15.00	7238	66294	66295
					24.00	7239	66354	66400
3.00	3.00	2.90	6	50	30.00	7239-10D	979370	979408

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing ●●●●○		Finishing ●●●●○	

DIXI 7237 $L_2 = 3 \times D_1$

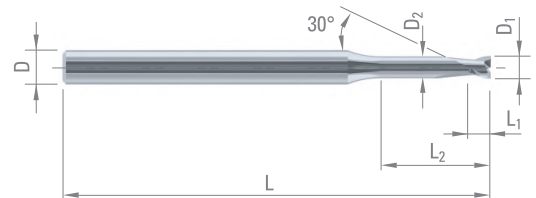
DIXI 7238 $L_2 = 5 \times D_1$

DIXI 7239 $L_2 = 8 \times D_1$

DIXI 7239-10D $L_2 = 10 \times D_1$

DIXI 7239-12D $L_2 = 12 \times D_1$

DIXI 7239-15D $L_2 = 15 \times D_1$



DIXI 7582

SLOT DRILLS REINFORCED SHANK

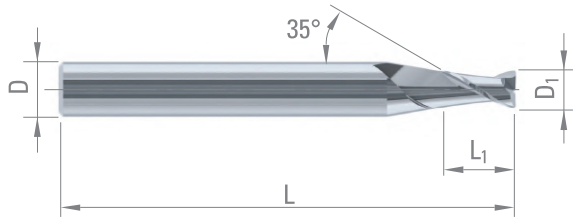
Z = 2



P. 202



$D_1 \geq 2.8$



Steel + Pb	Cast iron	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Al	Plastic			

Roughing
●●●○

Finishing
●●●○

D_1	L_1	D_{h5}	L	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					

1.00	2.0	3	38	47357	56304
1.50	3.0	3	38	47358	56305
2.00	4.0	4	50	47359	56306
2.50	5.0	4	50	47360	56307
2.80	6.0	6	50	35734	36304
3.00	6.0	6	50	30298	36305
3.80	8.0	6	50	34973	36306
4.00	8.0	6	50	30299	36607
4.50	10.0	6	50	35709	56983
5.00	10.0	6	50	30300	36309
5.50	10.0	6	50	35735	56303
6.00	10.0	6	50	29100	36299
8.00	15.0	8	60	29101	36300
10.00	18.0	10	66	29102	56334
12.00	20.0	12	73	30521	36302
16.00	25.0	16	82	30523	56318
20.00	35.0	20	104	31858	56335



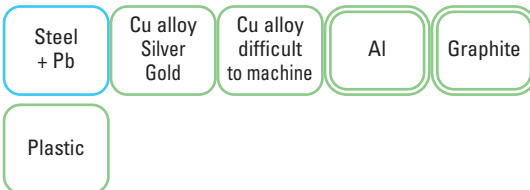
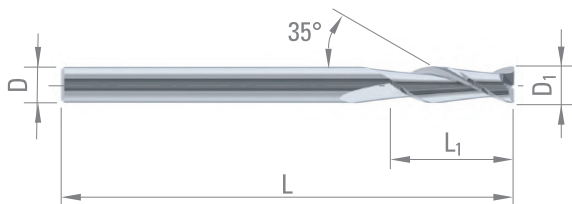
DIXI 7572

SLOT DRILLS, LONG SERIES

Z = 2



P. 202



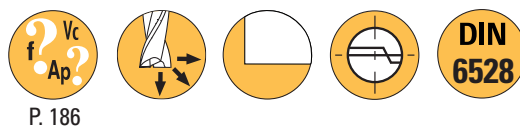
D_1 e8	L_1	D_{h5}	L	CARBIDE	TiAIN	DIAMANT*
3.00	14.0	3	50	32484	56320	57045
4.00	16.0	4	50	32485	56321	57046
5.00	18.0	5	60	32486	56322	57047
6.00	20.0	6	75	32487	56337	57048
7.00	22.0	7	75	32488		
8.00	25.0	8	75	32489	56336	57050
10.00	30.0	10	90	32491	56341	
12.00	36.0	12	100	32492	56342	

* for non-ferrous material

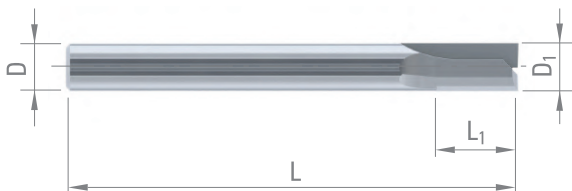
DIXI 7232

STRAIGHT FLUTE SLOT DRILLS

Z = 2



P. 186



D_1 e8	L_1	D_{h5}	L	CARBIDE
2.00	6.0	2	38	42540
3.00	7.0	3	38	42541
4.00	8.0	4	50	42542
6.00	10.0	6	57	42543
8.00	16.0	8	63	42544



DIXI 7243

END MILLS REINFORCED SHANK

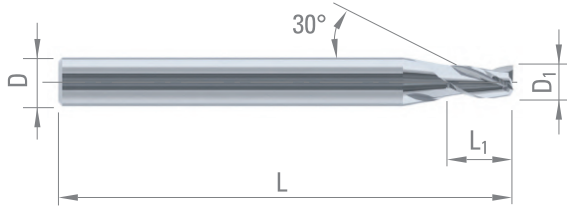
Z = 3



P. 166



$D_1 > 6$



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

Roughing
●●●●○

Finishing
●●●○●

D_1	L_1	D_{h5}	L	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					
0.35	1.0	3	38	956955	956956
0.40	1.2	3	38	956957	956958
0.50	1.5	3	38	48089	60914
0.60	1.8	3	38	61842	61841
0.70	2.1	3	38	61843	61844
0.75	2.4	3	38	48090	57205
0.80	2.4	3	38	66799	61845
0.90	2.7	3	38	60383	952308
1.00	3.0	3	38	48091	57206
1.10	3.3	3	38	59356	950790
1.20	3.6	3	38	39932	61352
1.25	3.9	3	38	48092	57207
1.30	3.9	3	38	49835	950044
1.40	4.2	3	38	60201	952191
1.50	4.5	3	38	48093	57208
1.60	4.8	3	38	64985	950045
1.70	5.1	3	38	57785	67283
1.75	5.4	3	38	48094	57209
1.80	5.4	3	38	50297	66988
1.90	5.7	3	38	66798	952309
2.00	6.0	3	38	42203	40868
2.10	7.0	3	38	45168	64847
2.20	7.0	3	38	57873	67276
2.30	7.0	3	38	40848	67277
2.40	7.0	3	38	42329	64809
2.50	7.0	3	38	41909	42105
3.00	7.0	6	57	41855	42106
3.50	7.0	6	57	41928	57210
4.00	8.0	6	57	41880	42341
4.50	8.0	6	57	41808	57211
5.00	10.0	6	57	41858	42107
5.50	10.0	6	57	41910	57690
6.00	10.0	6	57	41908	35589
6.00 >	12.0	8	63	43409	57214

D_1	L_1	D_{h5}	L	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					
6.50	13.0	8	63	28948	57691
7.00	13.0	8	63	42562	57217
7.50	16.0	8	63	43920	57218
8.00	16.0	8	63	41809	36267
8.00 >	15.0	10	63	28951	57692
8.50	16.0	10	72	43215	57220
9.00	16.0	10	72	28953	57221
9.50	19.0	10	72	28954	57222
10.00	19.0	10	72	42357	57223
12.00	22.0	12	83	39945	57224
14.00	22.0	14	83	27781	57225
16.00	26.0	16	92	42358	57226
20.00	32.0	20	104	42360	57228



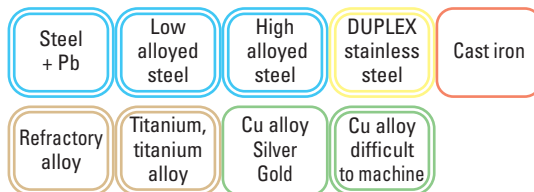
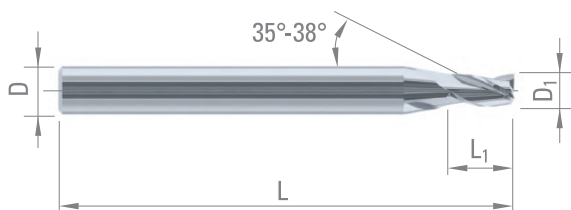
DIXI 7343

END MILLS REINFORCED SHANK WITH VARIABLE HELIX

Z = 3



P. 192
P. 194



Roughing



Finishing



D ₁	L ₁	D _{h5}	L	CARBIDE	C-TOP
Ø < 0.30 - 0/-0.01					
Ø < 2.00 - 0/-0.02					
Ø ≥ 6.00 - e8					

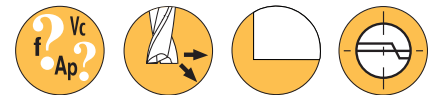
0.30	0.70	4	38	334881	334941
0.35	0.80	4	38	334882	334942
0.40	0.90	4	38	334883	334943
0.45	1.00	4	38	334884	334944
0.50	1.10	4	38	334885	334945
0.60	1.40	4	38	334886	334946
0.70	1.60	4	38	334887	334947
0.80	1.80	4	38	334888	334948
0.90	2.00	4	38	334889	334949
1.00	2.20	4	38	334890	334950
1.10	2.40	4	38	334891	334951
1.20	2.60	4	38	334892	334952
1.30	2.80	4	38	334893	334953
1.40	3.00	4	38	334894	334954
1.50	3.20	4	38	334895	334955
1.60	3.40	4	38	334896	334956
1.70	3.60	4	38	334897	334957
1.80	3.80	4	38	334898	334958
1.90	4.00	4	38	334899	334959
2.00	4.30	4	38	334900	334960
2.50	5.30	4	38	334901	334961
3.00	6.30	6	55	334902	334962
4.00	8.30	6	55	334903	334963
5.00	10.30	6	55	334904	334964
6.00	13.00	6	55	334905	334965
8.00	18.00	8	64	334906	334966
10.00	22.00	10	67	334907	334967
12.00	26.00	12	74	334908	334968
16.00	30.00	16	83	334909	334969



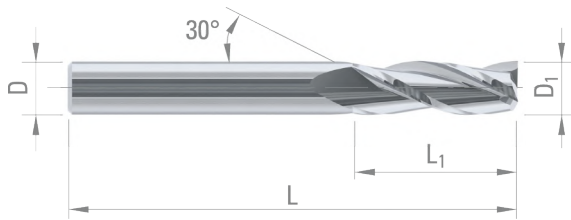
DIXI 7203

END MILLS

Z = 3



P. 166



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

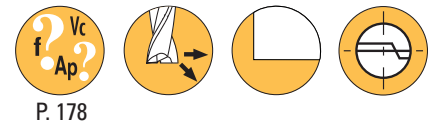
Roughing



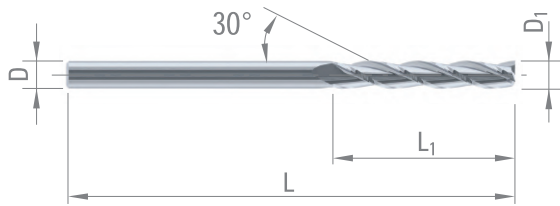
Finishing



D ₁ e8	L ₁	D _{h5}	L	CARBIDE	TiAlN
2.00	8.0	2.0	32	701	57082
2.50	8.0	2.5	32	702	57089
3.00	10.0	3.0	38	703	57090
3.50	12.0	3.5	38	34761	57101
4.00	12.0	4.0	50	704	57102
5.00	15.0	5.0	50	34626	57103
6.00	18.0	6.0	50	34627	57104
7.00	20.0	7.0	60	27097	57105
8.00	25.0	8.0	63	707	57106
9.00	25.0	9.0	67	43184	57107
10.00	30.0	10.0	72	30853	57108
11.00	30.0	11.0	73	30938	57109
12.00	30.0	12.0	73	30854	57110
13.00	30.0	13.0	75	23885	57111
15.00	30.0	15.0	75	23886	57113
16.00	30.0	16.0	92	27072	57114
18.00	40.0	18.0	125	26086	57115
20.00	40.0	20.0	130	26087	57117



P. 178



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic
Plastic	Roughing ●○○○○		Finishing ●●●○○	

D _{1 e8}	L ₁	D _{h5}	L	CARBIDE	TiAlN	DIAMANT*
3.00	30.0	3	60	44695	57141	60249
4.00	30.0	4	60	44696	57142	60250
5.00	35.0	5	75	44697	57143	60251
6.00	40.0	6	100	44698	57144	59009
8.00	40.0	8	100	44699	57145	60252
10.00	40.0	10	100	44700	57146	60253
12.00	45.0	12	100	44701	57147	60254

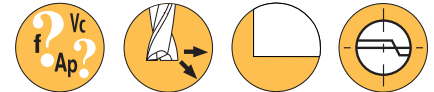
* for non-ferrous material



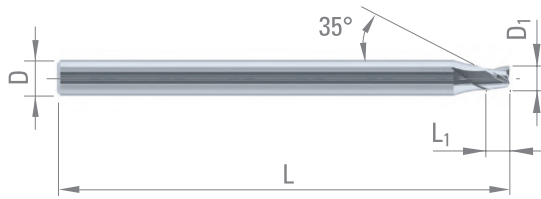
DIXI 7333

SLOT DRILLS, EXTRA SHORT

Z = 3



P. 180



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing ●●●●●		Finishing ●●●●○	

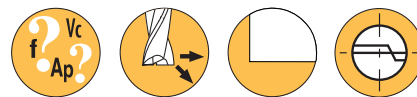
D_1	L_1	D_{h5}	L	CARBIDE	CUTINOX
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					
0.30	0.3	3	38	977779	977815
0.40	0.4	3	38	977780	977816
0.50	0.5	3	38	977781	977817
0.60	0.6	3	38	977782	977818
0.70	0.7	3	38	977783	977819
0.80	0.8	3	38	977784	977820
0.90	0.9	3	38	977785	977821
1.00	1.0	3	38	977786	977822
1.10	1.1	3	38	977787	977823
1.20	1.2	3	38	977788	977825
1.30	1.3	3	38	977789	977826
1.40	1.4	3	38	977790	977827
1.50	1.5	3	38	977791	977828
1.60	1.6	3	38	977792	977829
1.70	1.7	3	38	977793	977830
1.80	1.8	3	38	977794	977831
1.90	1.9	3	38	977795	977832
2.00	2.0	3	38	977796	977833
2.50	2.5	3	38	977797	977834
3.00	3.0	3	38	977798	977835
4.00	4.0	4	42	977799	977836
5.00	5.0	5	50	977800	977837
6.00	6.0	6	50	977801	977838
8.00	8.0	8	63	977802	977839
10.00	10.0	10	72	977803	977840



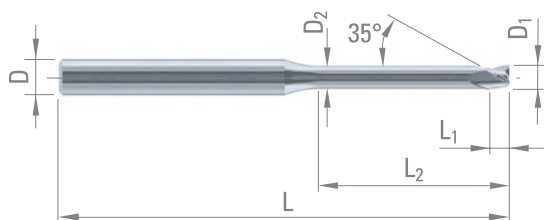
DIXI 7333-D

SLOT DRILLS, EXTRA SHORT
NECKED DOWN

Z = 3



P. 180



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing ●●●●●		Finishing ●●●●○	

D₁ L₁ D₂ D_{h5} L L₂ DIXI CARBIDE CUTINOX
 Ø < 2.00 - 0/-0.01
 Ø < 3.00 - 0/-0.02
 Ø ≥ 3.00 - e8

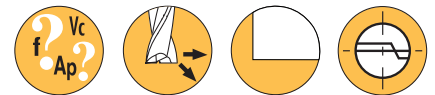
D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	CUTINOX
0.30	0.3	0.27	3	38	0.90	7333-3D	978791	978793
					1.50	7333-5D	978895	978896
					2.40	7333-8D	978591	978922
0.40	0.4	0.37	3	38	1.20	7333-3D	978794	978795
					2.00	7333-5D	978897	978898
					3.20	7333-8D	978928	979009
0.50	0.5	0.45	3	38	1.50	7333-3D	978796	978798
					2.50	7333-5D	978899	978900
					4.00	7333-8D	979010	979011
0.60	0.6	0.55	3	38	1.80	7333-3D	978799	978800
					3.00	7333-5D	978901	978902
					4.80	7333-8D	979012	979014
0.70	0.7	0.65	3	38	2.10	7333-3D	978801	978802
					3.50	7333-5D	978903	978904
					5.60	7333-8D	979016	979017
0.80	0.8	0.75	3	38	2.40	7333-3D	978803	978804
					4.00	7333-5D	978905	978906
					6.40	7333-8D	979018	979019
0.90	0.9	0.85	3	38	2.70	7333-3D	978805	978806
					4.50	7333-5D	978907	978908
					7.20	7333-8D	979020	979021
1.00	1.0	0.95	3	38	3.00	7333-3D	978807	978808
					5.00	7333-5D	978909	978910
					8.00	7333-8D	979022	979023
1.10	1.1	1.05	3	38	3.30	7333-3D	978809	978811
					5.50	7333-5D	978911	978912
					8.80	7333-8D	979024	979025
1.20	1.2	1.15	3	38	3.60	7333-3D	978812	978813
					6.00	7333-5D	978913	978914
					9.60	7333-8D	979026	979027
1.30	1.3	1.25	3	38	3.90	7333-3D	978814	978815
					6.50	7333-5D	978915	978916
					10.40	7333-8D	979028	979029
1.40	1.4	1.35	3	38	4.20	7333-3D	978816	978817
					7.00	7333-5D	978917	978918
					11.20	7333-8D	979030	979031
1.50	1.5	1.45	3	38	4.50	7333-3D	978818	978819
					7.50	7333-5D	978919	978920
					12.00	7333-8D	979032	979033
1.60	1.6	1.55	3	38	4.80	7333-3D	978820	978821
					8.00	7333-5D	978921	978923
					12.80	7333-8D	979034	979035
1.70	1.7	1.65	3	38	5.10	7333-3D	978823	978824
					8.50	7333-5D	978924	978925
					13.60	7333-8D	979036	979037
1.80	1.8	1.75	3	38	5.40	7333-3D	978826	978828
					9.00	7333-5D	978926	978927
					14.40	7333-8D	979038	979039
1.90	1.9	1.85	3	38	5.70	7333-3D	978829	978830
					9.50	7333-5D	978929	978930
					15.20	7333-8D	979041	979040

DIXI 7333-3D L₂ = 3 x D₁
DIXI 7333-5D L₂ = 5 x D₁
DIXI 7333-8D L₂ = 8 x D₁

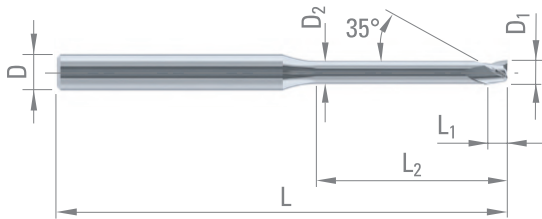


DIXI 7333-D

Z = 3



P. 180



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Plastic	Roughing ●●●●●		Finishing ●●●●○	

D₁ L₁ D₂ D_{h5} L L₂ DIXI CARBIDE CUTINOX
 Ø < 2.00 - 0/-0.01
 Ø < 3.00 - 0/-0.02
 Ø ≥ 3.00 - e8

D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	CUTINOX
2.00	2.0	1.90	3	38	6.00	7333-3D	978848	978849
					10.00	7333-5D	978931	978932
					16.00	7333-8D	979042	979043
2.50	2.5	2.40	3	38	7.50	7333-3D	978850	978851
					12.50	7333-5D	978933	978934
					20.00	7333-8D	979044	979045
3.00	2.9	2.90	3	38	9.00	7333-3D	978852	978853
					15.00	7333-5D	978935	978936
					24.00	7333-8D	979046	979047
4.00	4.0	3.80	4	42	12.00	7333-3D	978854	978855

DIXI 7333-3D L₂ = 3 x D₁

DIXI 7333-5D L₂ = 5 x D₁

DIXI 7333-8D L₂ = 8 x D₁

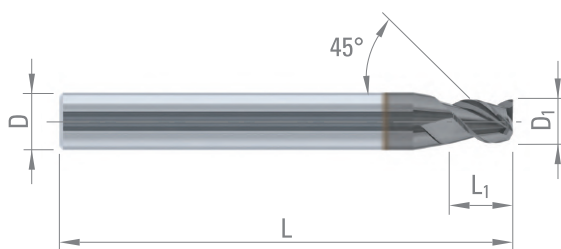
DIXI 7543 XIDUR

END MILLS
REINFORCED SHANK

Z = 3



P. 204



D₁ L₁ D_{h5} L XIDUR
 Ø < 2.00 - 0/-0.01
 Ø < 3.00 - 0/-0.02
 Ø ≥ 3.00 - e8

D ₁	L ₁	D _{h5}	L	XIDUR
1.00	2.0	4	50	51704
1.50	3.0	4	50	63945
2.00	3.0	4	50	51705
2.50	3.0	4	50	63946
3.00	4.5	6	57	51706
4.00	6.0	6	57	51707
5.00	7.0	6	57	51708
6.00	8.0	8	63	51709
8.00	10.0	10	72	51710
10.00	12.0	10	72	51711
12.00	15.0	12	83	51712

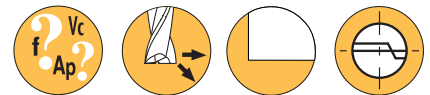
Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy				
Roughing ●●●●○	Finishing ●●●●○			



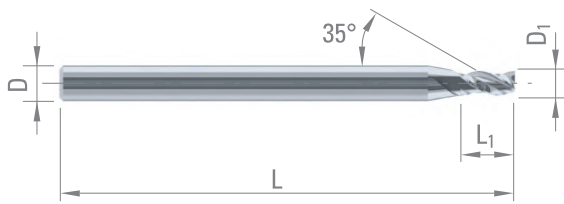
DIXI 7583

END MILLS REINFORCED SHANK

Z = 3



P. 166



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

Roughing
●●●○

Finishing
●●●●○

D ₁	L ₁	D _{h5}	L	CARBIDE	TiAIN	DLC*
Ø < 2.00 - 0/-0.01						
Ø < 3.00 - 0/-0.02						
Ø ≥ 3.00 - e8						

0.30	0.6	3	38	972403	972404	975572
0.40	0.8	3	38	972405	972406	982427
0.50	1.0	3	38	52565	963644	977361
0.60	1.2	3	38	963676	963678	982428
0.70	1.4	3	38	963677	963679	973037
0.80	1.6	3	38	954650	963680	982429
0.90	1.8	3	38	951666	963681	983104
1.00	2.0	3	38	31445	44659	960097
1.10	2.2	3	38	66496	66497	983105
1.20	2.4	3	38	66498	66499	973027
1.30	2.6	3	38	66500	66501	983106
1.40	2.8	3	38	66502	66503	983107
1.50	3.0	3	38	29407	40913	957103
1.60	3.2	3	38	41962	66510	983108
1.70	3.4	3	38	66504	66505	983109
1.80	3.6	3	38	66506	66507	983111
1.90	3.8	3	38	66508	66509	983112
2.00	4.0	3	38	39304	40081	61971
2.50	5.0	3	38	39213	40580	61973
3.00	6.0	6	50	40739	41954	61974
4.00	8.0	6	50	34377	53324	984169
5.00	10.0	6	50	48700	53325	984170
6.00	12.0	6	50	978074	978075	984171

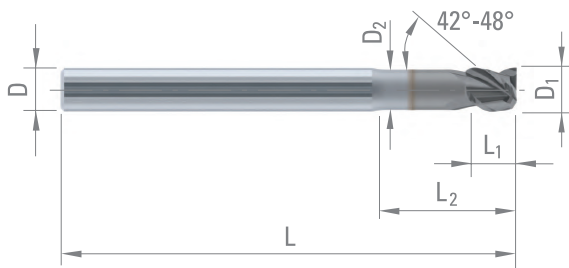
* for non-ferrous material



DIXI 7253 CUTINOX

END MILLS WITH VARIABLE HELIX
NECKED DOWN

Z = 3



P. 168
P. 170

$D_1 \geq 10$

Steel
+ Pb

Low
alloyed
steel

High
alloyed
steel

DUPLEX
stainless
steel

Cast iron

Refractory
alloy

Titanium,
titanium
alloy

Roughing



Finishing



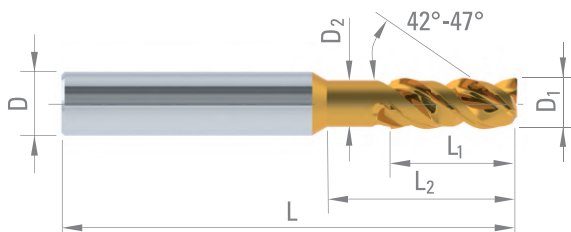
$D_{1\text{e}8}$	L_1	D_2	L_2	D_{h5}	L	CUTINOX
3.00	4.0	2.80	9	6	57	968764
4.00	5.0	3.70	12	6	57	968765
5.00	6.0	4.60	15	6	57	968766
6.00	7.0	5.50	18	8	63	968767
8.00	9.0	7.50	24	10	72	968768
10.00	11.0	9.30	30	10	72	968769
12.00	13.0	11.20	36	12	83	968770
16.00	17.0	15.20	48	16	92	968771

DIXI 7563 - 7563-FC DIXAL

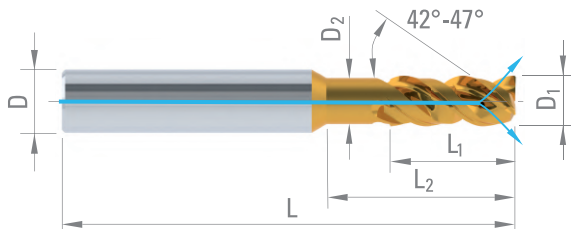
END MILL WITH VARIABLE HELIX

Z = 3

7563



7563-FC



P. 206

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

Plastic

Roughing



Finishing



7563



7563-FC



$D_{1\text{h}10}$	L_1	D_2	L_2	D_{h5}	L	DIXAL	DIXAL
4.00	9.0	3.60	14	4	57	991388	
6.00	13.0	5.60	21	6	57	991389	321899
8.00	19.0	7.40	26	8	63	991390	321900
10.00	22.0	9.30	30	10	72	991391	321901
12.00	26.0	11.00	37	12	83	991392	321902
16.00	32.0	15.00	42	16	92	991393	321903
20.00	38.0	19.00	50	20	104	991394	322866



DIXI 7273

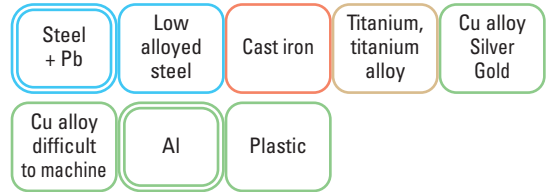
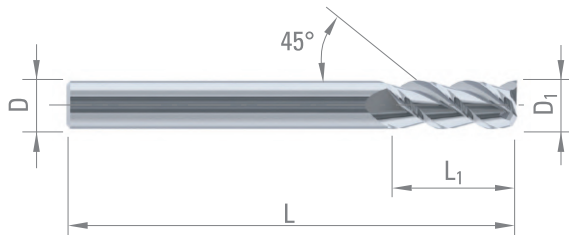
FINISHING END MILLS

Z = 3



P. 166

$D_1 \geq 12$



Roughing



Finishing

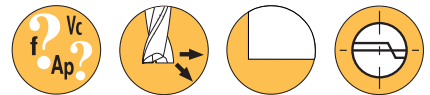


$D_{1\ e8}$	L_1	D_{h5}	L	CARBIDE	TiAlN
3.00	10.0	3	38	35741	57254
4.00	12.0	4	50	35742	57255
5.00	14.0	5	50	34225	57256
6.00	16.0	6	57	35743	57258
8.00	20.0	8	63	34227	57259
10.00	22.0	10	72	34228	57260
12.00	22.0	12	73	34229	57261
16.00	27.0	16	82	35745	
20.00	35.0	20	104	35747	

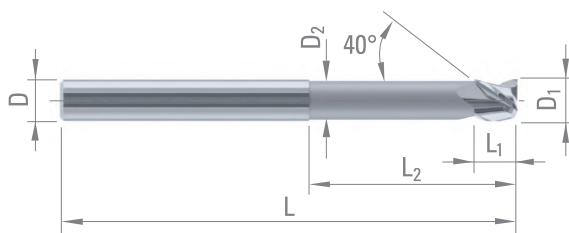
DIXI 7593

END MILLS NECKED DOWN

Z = 3-4



P. 204



Roughing



Finishing



$D_{1\ h5}$	L_1	D_2	L_2	D_{h5}	L	Z	CARBIDE
6.00	6.0	5.6	30	6	66	3	49281
8.00	8.0	7.6	45	8	81	3	49282
10.00	10.0	9.6	50	10	90	3	49283
12.00	12.0	11.6	55	12	100	3	49284
16.00	16.0	15.6	72	16	120	3	49285
20.00	20.0	19.6	80	20	130	4	49286



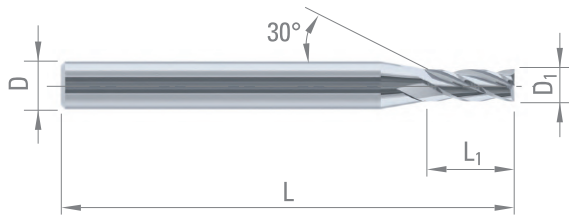
DIXI 7244

SLOT DRILLS REINFORCED SHANK

Z = 4



P. 176



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite
Plastic	Roughing ●●●○○		Finishing ●●●●○○	

D₁ L D_{h5} L CARBIDE TiN DIAMANT*

Ø < 2.00 - 0/-0.01
Ø < 3.00 - 0/-0.02
Ø ≥ 3.00 - e8

D ₁	L ₁	D _{h5}	L	CARBIDE	TiN	DIAMANT*
0.40	1.2	3	38	45695	61846	
0.50	1.5	3	38	45696	61345	
1.00	3.0	3	38	55964	57230	63697
1.50	4.0	3	38	56731	57231	63698
2.00	7.0	3	38	52357	57232	63699
3.00	8.0	6	57	28959	57233	63700
4.00	11.0	6	57	42123	57239	63701
4.50	11.0	6	57	42124	57241	
5.00	13.0	6	57	41881	57242	63703
6.00	13.0	6	57	28965	57243	36278
7.00	16.0	8	63	28967	57244	
8.00	19.0	8	63	42906	57245	
9.00	19.0	10	72	28971	57246	
10.00	22.0	10	72	42361	57247	
12.00	26.0	12	83	39946	57248	
14.00	26.0	14	83	42362	57249	
16.00	32.0	16	92	42363	57251	
20.00	38.0	20	104	42227	57253	

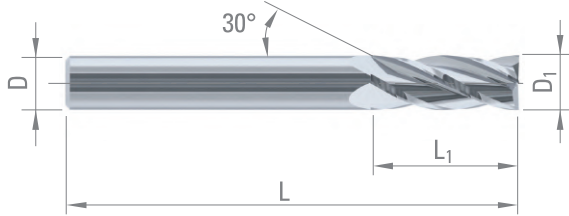
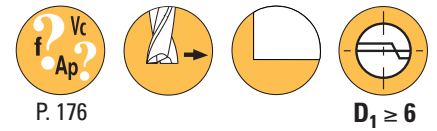
* for non-ferrous material



DIXI 7204

END MILLS

Z = 4



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titane, alliage de titane	Alliage Cu Argent Or	Alliage Cu difficile	Al	Plastic

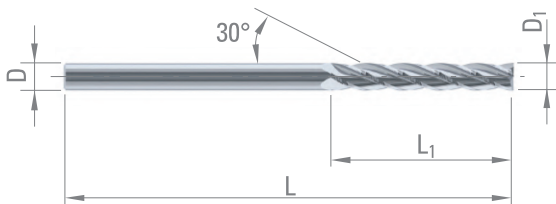
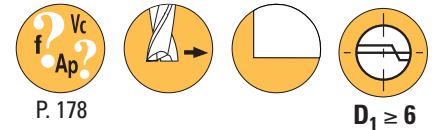
Roughing ●●●●○ Finishing ●●●●●

D ₁ e8	L ₁	D _{h5}	L	CARBIDE	TiAIN
2.00	8.0	2.0	32	32944	57118
2.50	8.0	2.5	32	32945	57119
3.00	10.0	3.0	38	710	57120
4.00	12.0	4.0	50	711	57121
5.00	14.0	5.0	50	34629	57122
6.00	16.0	6.0	50	34630	57123

DIXI 7224

END MILLS, LONG SERIES

Z = 4



Steel + Pb	Low alloyed steel	Cast iron	Titanium, titanium alloy	Cu alloy Silver Gold
Cu alloy difficult to machine	Al	Graphite	Plastic	

Roughing ●●●●○ Finishing ●●●●●

D ₁ e8	L ₁	D _{h5}	L	CARBIDE	TiAIN	DIAMANT*
3.00	30.0	3	60	44769	57152	60255
4.00	30.0	4	60	44770	57154	60258
5.00	35.0	5	75	44771	57155	60259
6.00	40.0	6	100	44706	57156	60260
8.00	40.0	8	100	44772	57157	60003
10.00	40.0	10	100	44707	57158	60004
12.00	45.0	12	100	44773	57159	60261
14.00	65.0	14	150	44708	57160	
16.00	65.0	16	150	44709	55770	
20.00	65.0	20	150	44776	57161	

* for non-ferrous material



DIXI 7264 - 7264-3D CUTINOX

END MILLS WITH VARIABLE HELIX
AND IRREGULAR TEETH

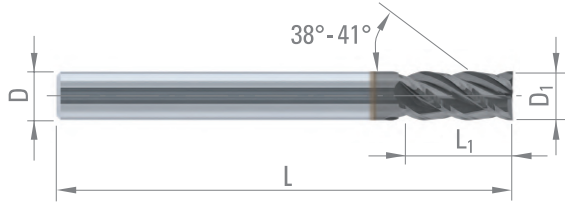
Z = 4



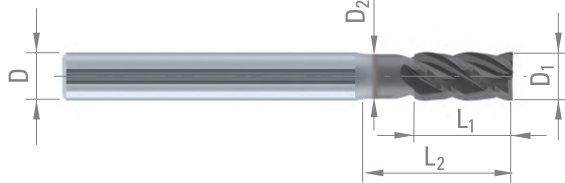
P. 174

D₁ ≥ 10

7264



7264-3D



Steel
+ Pb

Low
alloyed
steel

High
alloyed
steel

Acier
inox
aust.

Cast iron

Refractory
alloy

Titanium,
titanium
alloy

Roughing



Finishing



D₁
Ø < 3.00 - 0/-0.02
Ø ≥ 3.00 - e8

L₁ D_{h5} L DIXI D₂ L₂ CUTINOX

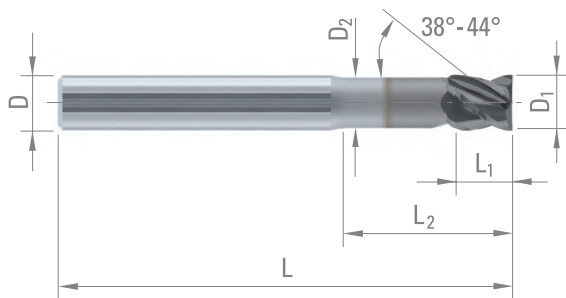
1.50	3.0	3	38	7264	-	-	974805
2.00	4.0	3	38	7264	-	-	974804
3.00	8.0	6	57	7264	-	-	968672
4.00	11.0	6	57	7264	-	-	968678
5.00	13.0	6	57	7264	-	-	968679
6.00	13.0	6	57	7264	-	-	968680
				7264-3D	5.5	18	997930
8.00	19.0	8	63	7264	-	-	968681
				7264-3D	7.5	24	997931
10.00	22.0	10	72	7264	-	-	968682
				7264-3D	9.25	30	997932
12.00	26.0	12	83	7264	-	-	968683
				7264-3D	11.0	36	997933
16.00	32.0	16	92	7264	-	-	968684
				7264-3D	15.0	48	997934
20.00	38.0	20	104	7264	-	-	968685
				7264-3D	19.0	60	997935



DIXI 7254 CUTINOX

END MILLS WITH VARIABLE HELIX
NECKED DOWN

Z = 4



P. 170



D₁ ≥ 10



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy			

Roughing



Finishing



D _{1 e8}	L ₁	D ₂	L ₂	D _{h5}	L	CUTINOX
3.00	4.0	2.80	9	6	57	968686
4.00	5.0	3.70	12	6	57	968687
5.00	6.0	4.60	15	6	57	968688
6.00	7.0	5.50	18	8	63	968689
8.00	9.0	7.50	24	10	72	968690
10.00	11.0	9.30	30	10	72	968691
12.00	13.0	11.20	36	12	83	968692
16.00	17.0	15.20	48	16	92	968693



DIXI 7560

MULTI-TOOTH END MILLS

Z = 3-8



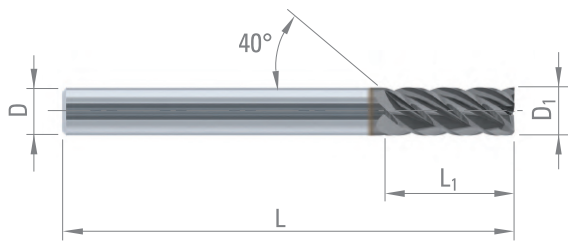
P. 182



$D_1 > 6$



$D_1 \leq 1.90$



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	

Roughing



Finishing



D_1	L_1	D_{h5}	L	Z	CARBIDE	TiAlN	DLC*
-------	-------	----------	---	---	---------	-------	------

$\emptyset < 2.00 - 0/-0.01$

$\emptyset \geq 2.00 - e8$

0.35	0.90	3.0	38	3	964114	966117	966057
0.40	1.00	3.0	38	3	964115	966118	966058
0.45	1.10	3.0	38	3	964116	966119	966059
0.50	1.25	3.0	38	3	964117	966120	966060
0.55	1.40	3.0	38	3	964118	966121	966061
0.60	1.50	3.0	38	3	964119	966122	966062
0.65	1.70	3.0	38	3	964120	966123	966063
0.70	1.75	3.0	38	3	964121	966124	966064
0.75	1.90	3.0	38	3	964122	966125	966065
0.80	2.00	3.0	38	3	964123	966126	966066
0.85	2.15	3.0	38	3	964124	966127	966067
0.90	2.25	3.0	38	3	964125	966128	966068
0.95	2.40	3.0	38	3	964126	966129	966069
1.00	2.50	3.0	38	3	964127	966130	966070
1.10	2.75	3.0	38	3	964128	966131	966071
1.20	3.00	3.0	38	3	964129	966132	966072
1.30	3.25	3.0	38	3	964130	966133	966073
1.40	3.50	3.0	38	3	964131	966134	966074
1.50	3.75	3.0	38	3	964132	966136	966075
1.60	4.00	3.0	38	3	964133	966138	966076
1.70	4.25	3.0	38	3	964134	966139	966094
1.80	4.50	3.0	38	3	964135	966140	966095
1.90	4.75	3.0	38	3	964136	966142	966096
2.00	8.00	3.0	38	5	964108	964112	964113
2.10	5.25	3.0	38	5	964137	966145	966097
2.20	5.50	3.0	38	5	964140	966146	966098
2.30	5.75	3.0	38	5	964141	966147	966099
2.40	6.00	3.0	38	5	964142	966148	966101
2.50	8.00	3.0	38	5	964109	964110	964111
2.60	6.50	3.0	38	5	964143	966149	966102
2.70	6.75	3.0	38	5	964144	966150	966104
2.80	7.00	3.0	38	5	964145	966151	966105
2.90	7.00	3.0	38	5	964146	966152	966106
3.00	10.00	3.0	38	5	45657	49683	966107
4.00	12.00	4.0	50	5	45658	49684	964325
5.00	14.00	5.0	50	5	45659	49685	966115
6.00	16.00	6.0	57	5	45546	49686	966116
8.00	19.00	8.0	63	5	45547	49688	
9.00	22.00	9.0	67	5	45661	49689	
10.00	22.00	10.0	72	6	45548	49690	
12.00	26.00	12.0	83	6	45662	49691	
16.00	32.00	16.0	92	6	45549	49693	
20.00	38.00	20.0	104	8	45550	49694	

* for non-ferrous material



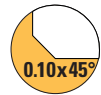
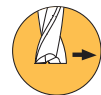
DIXI 7520 XIDUR

MULTI-TOOTH END MILLS

Z = 3-10



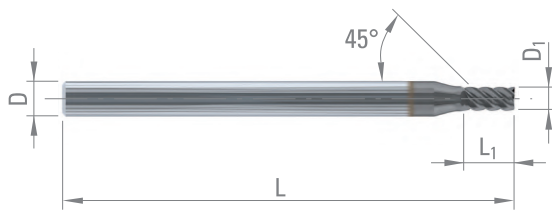
P. 210



$D_1 \geq 6$



$D_1 \leq 1.50$



High alloyed steel

Steel
Cast iron
> 45 HRC

Refractory alloy

Roughing



Finishing



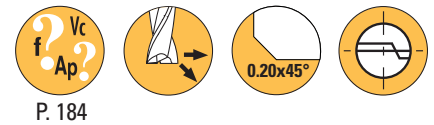
D_1	L_1	D_{h5}	L	Z	XIDUR
$\emptyset < 2.00 - 0/-0.01$					
$\emptyset < 3.00 - 0/-0.02$					
$\emptyset \geq 3.00 - e8$					
0.40	0.8	3	38	3	956595
0.50	1.0	3	38	3	956596
0.60	1.2	3	38	3	956597
0.70	1.4	3	38	3	956598
0.80	1.6	3	38	3	956599
0.90	1.8	3	38	3	956600
1.00	2.0	3	38	4	956601
1.50	3.0	3	38	4	956602
2.00	4.0	3	38	5	956603
2.50	5.0	3	38	5	957465
3.00	6.0	3	38	5	49107
4.00	8.0	4	50	5	49108
6.00	12.0	6	57	6	49109
8.00	16.0	8	63	6	49110
10.00	20.0	10	72	6	49111
12.00	24.0	12	83	8	49112
16.00	32.0	16	92	10	49113



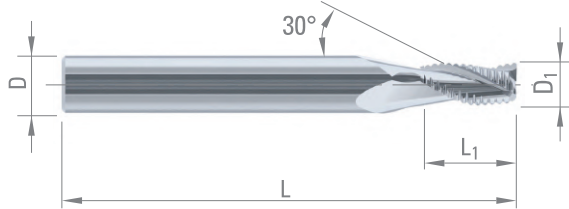
DIXI 7210

ROUGHING END MILLS

Z = 3



P. 184



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	

Roughing ●●●●●● Finishing ○○○○○○

D _{1 d12}	L ₁	D _{h5}	L	CARBIDE	CUTINOX
3.00	8.0	6	57	955178	955179
4.00	10.0	6	57	955092	955091
5.00	13.0	6	57	955089	955090
6.00	13.0	8	63	955088	955087
7.00	16.0	8	63	955086	955085
8.00	16.0	8	63	955082	955033
10.00	22.0	10	72	955093	955094
12.00	25.0	12	83	959048	956993

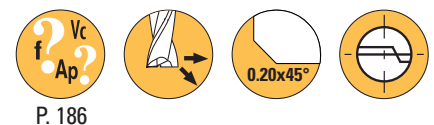


On request

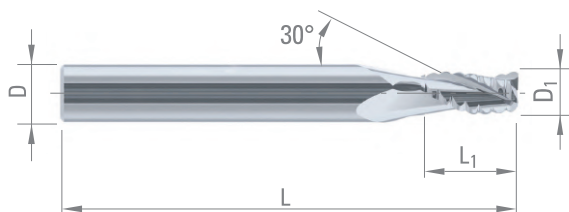
DIXI 7213

ROUGHING END MILLS

Z = 3



P. 186

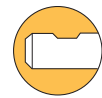


Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	

Roughing ●●●●●● Finishing ○○○○○○



DIN 6535 HA



DIN 6535 HB

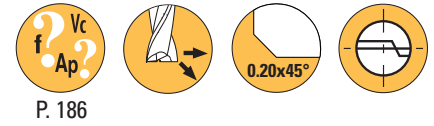
D _{1 d12}	L ₁	D _{h5}	L	CARBIDE	TiAIN	CARBIDE	TiAIN
4.00	10.0	6	57	31451	57018	367642	367638
5.00	13.0	6	57	37136	57019	367629	367633
6.00	13.0	8	63	37137	57020	367640	367630
7.00	16.0	8	63	37138	57021	367632	367645
8.00	16.0	10	72	43218	57022	367634	367625
10.00	22.0	10	72	43214	57024	367636	367631
11.00	22.0	12	83	37142	57025	367646	367626
12.00	25.0	12	83	37143	57026	367644	367635
14.00	27.0	14	83	37144	57027	367643	367641
16.00	36.0	16	100	37145	57028	367628	367627
20.00	40.0	20	104	37588	57029	367637	367639



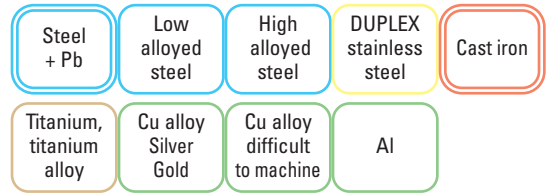
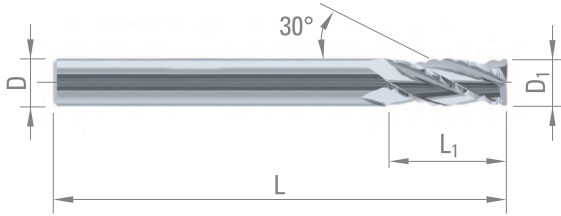
DIXI 7214

ROUGHING END MILLS

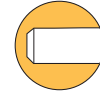
Z = 4



P. 186



Roughing ●●●● Finishing ○●●●



DIN 6535 HA



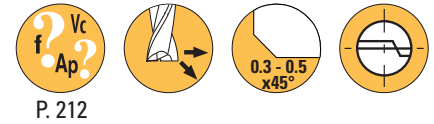
DIN 6535 HB

$D_{1\ d12}$	L_1	D_{h5}	L	CARBIDE	TiAIN	CARBIDE	TiAIN
6.00	15.0	6	57	45798	61412	367642	367638
8.00	16.0	10	72	39954	62426	367629	367633
10.00	22.0	10	72	37146	31133	367640	367630
12.00	25.0	12	83	37148	60949	367632	367645
16.00	36.0	16	100	37151	63333	367634	367625
20.00	40.0	20	104	37152	63334	367636	367631

DIXI 7215 - 7215-FC DAC

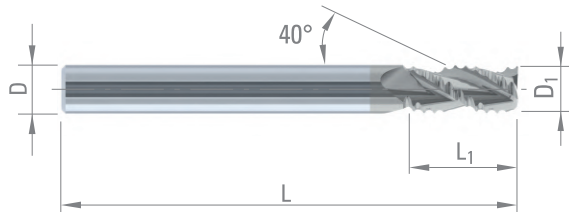
ALU ROUGHING END MILLS

Z = 3

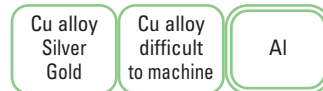
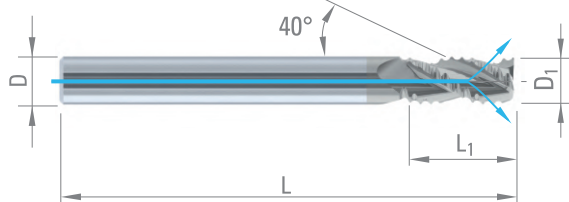


P. 212

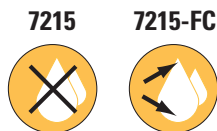
7215



7215-FC



Roughing ●●●● Finishing ○●●●



$D_{1\ d12}$	L_1	D_{h6}	L	DAC	DAC
6.00	13.0	6	57	993017	995594
8.00	19.0	8	63	993018	995595
10.00	22.0	10	72	993003	995596
12.00	26.0	12	83	990143	995597
16.00	32.0	16	92	993019	307320



On request



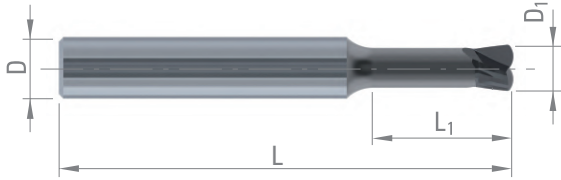
DIXI 7702 XIDUR

HIGH FEED END MILLS

Z = 2



P. 196



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron > 45 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Alliage Cu difficile
Al				

Roughing



Finishing



D ₁	L ₁	D _{h6}	L	XIDUR
0.50	1.50	6	40	305279
0.80	2.40	6	40	305280
1.00	3.00	6	40	997920
1.50	4.50	6	40	997921
2.00	6.00	6	40	997922
3.00	9.00	6	40	997923
4.00	12.00	6	57	997924
5.00	15.00	6	57	997925
6.00	18.00	8	63	997926
8.00	24.00	10	80	997927
10.00	30.00	10	80	997928
12.00	36.00	12	80	997929

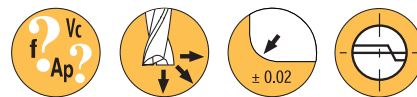
Download the cutting conditions (pdf + xls) and the dxf profiles
www.dixipolytool.com



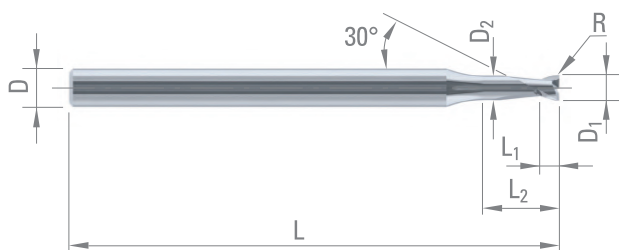
DIXI 7237-10

SLOT DRILLS EXTRA SHORT
WITH CORNER RADIUS
NECKED DOWN, $L_2 = 3 \times D_1$

Z = 2



P. 162



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Alliage Cu difficile	Al
Plastic	Roughing		Finishing	
	●●●●○		●●●●○	

D_1	L_1	D_2	L_2	D_{h5}	L	R	CARBIDE	TiAIN
$\emptyset < 2.00 - 0/-0.01$								
$\emptyset < 3.00 - 0/-0.02$								
$\emptyset \geq 3.00 - e8$								
0.40	0.40	0.37	1.20	3	38	0.05	958447	958452
0.45	0.45	0.42	1.35	3	38	0.05	958453	958454
0.50	0.50	0.45	1.50	3	38	0.05	958455	958456
0.55	0.55	0.50	1.65	3	38	0.05	958457	958458
0.60	0.60	0.55	1.80	3	38	0.05	958465	958466
0.65	0.65	0.60	1.95	3	38	0.05	958467	958468
0.70	0.70	0.65	2.10	3	38	0.05	958469	958470
0.75	0.75	0.70	2.25	3	38	0.05	958472	958473
0.80	0.80	0.75	2.40	3	38	0.05	958474	958475
0.85	0.85	0.80	2.55	3	38	0.05	958476	958477
0.90	0.90	0.85	2.70	3	38	0.10	958478	958479
0.95	0.95	0.90	2.85	3	38	0.10	958481	958482
1.00	1.00	0.95	3.00	3	38	0.10	958483	958484
1.05	1.05	1.00	3.15	3	38	0.10	958486	958487
1.10	1.10	1.05	3.30	3	38	0.10	958488	958489
1.15	1.15	1.10	3.45	3	38	0.10	958490	958491
1.20	1.20	1.15	3.60	3	38	0.10	958492	958493
1.25	1.25	1.20	3.75	3	38	0.10	958494	958495
1.30	1.30	1.25	3.90	3	38	0.10	958496	958497
1.35	1.35	1.30	4.05	3	38	0.10	958499	958501
1.40	1.40	1.35	4.20	3	38	0.10	958502	958503
1.45	1.45	1.40	4.35	3	38	0.10	958504	958505
1.50	1.50	1.45	4.50	3	38	0.20	958506	958507
1.55	1.55	1.50	4.65	3	38	0.20	958508	958509
1.60	1.60	1.55	4.80	3	38	0.20	958510	958511
1.65	1.65	1.60	4.95	3	38	0.20	958512	958513
1.70	1.70	1.65	5.10	3	38	0.20	958514	958515
1.75	1.75	1.70	5.25	3	38	0.20	958516	958517
1.80	1.80	1.75	5.40	3	38	0.20	958518	958519
1.85	1.85	1.80	5.55	3	38	0.20	958520	958521
1.90	1.90	1.85	5.70	3	38	0.20	958522	958523
1.95	1.95	1.90	5.85	3	38	0.20	958524	958525
2.00	2.00	1.90	6.00	6	50	0.20	958527	958531
2.10	2.10	2.00	6.30	6	50	0.20	958532	958533
2.20	2.20	2.10	6.60	6	50	0.20	958534	958535
2.30	2.30	2.20	6.90	6	50	0.20	958886	958887
2.40	2.40	2.30	7.20	6	50	0.20	958888	958889
2.50	2.50	2.40	7.50	6	50	0.20	958890	958891
3.00	3.00	2.90	9.00	6	50	0.20	958892	958893



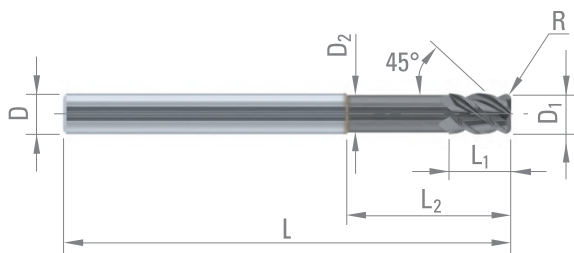
DIXI 7070 XIDUR

MULTI-TOOTH END MILLS
WITH CORNER RADIUS
NECKED DOWN

Z = 4-6



P. 211



High alloyed steel

Steel
Cast iron
> 45 HRC

Refractory alloy

Roughing



Finishing



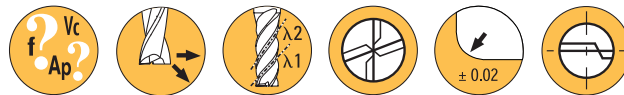
D _{1 e8}	L ₁	D ₂	L ₂	D _{h5}	L	Z	R	XIDUR
3.00	4.5	2.75	12.0	6	57	4	0.5	56643
4.00	6.0	3.70	13.5	6	57	4	0.5	56644
5.00	7.5	4.60	17.5	6	57	4	0.5	56645
							0.5	56627
6.00	9.0	5.50	24.0	6	66	4	0.8	56646
							1.0	56628
							1.5	56647
							0.5	56634
8.00	10.0	7.50	28.0	8	75	4	1.0	56635
							1.5	56648
							2.0	56649
							0.5	56636
							1.0	56637
10.00	12.0	9.25	30.0	10	75	6	1.5	56650
							2.0	56651
							2.5	56652
							1.0	56653
12.00	12.0	11.00	32.0	12	83	6	1.5	56654
							2.0	56655
							3.0	56656



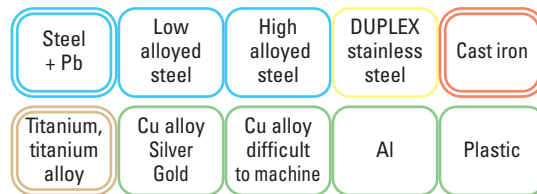
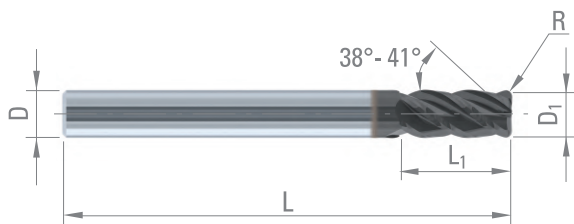
DIXI 7265 CUTINOX

END MILLS WITH VARIABLE HELIX
WITH CORNER RADIUS

Z = 4



P. 172
P. 174



Roughing
●●●●○

Finishing
●●●●●

D ₁ ∅ < 3.00 - 0/-0.02 ∅ ≥ 3.00 - e8	L ₁	D _{h5}	L	R	CUTINOX
2.00	4.0	3	38	0.5	997936
3.00	8.0	6	57	0.5	997937
4.00	11.0	6	57	0.5	997938
5.00	13.0	6	57	0.5	997939
6.00	13.0	6	57	0.5	997940
				1.0	997941
8.00	19.0	8	63	0.5	997942
				1.0	997943
10.00	22.0	10	72	0.5	997944
				1.0	997945
12.00	26.0	12	83	0.5	997946
				1.0	997947



DIXI 7554

END MILLS WITH CORNER RADIUS
NECKED DOWN

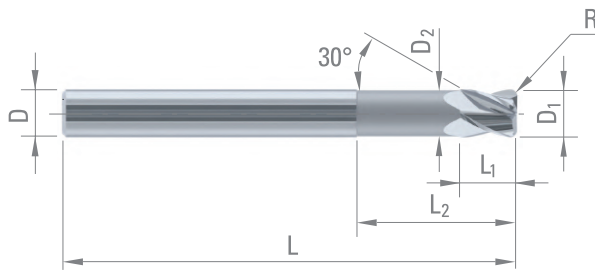
Z = 4



P. 176



$D_1 \geq 6$



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

Roughing
●●●●○

Finishing
●●●●○

D_1	L_1	D_2	L_2	D_{h5}	L	R	CARBIDE	TiAIN
$\emptyset < 3.00 - 0/-0.02$ $\emptyset \geq 3.00 - e8$								
2.00	3.0	1.90	10	4	42	0.2	64465	64466
3.00	4.0	2.80	15	6	57	0.2	64467	64468
4.00	5.0	3.80	18	6	57	0.3	64469	64470
6.00	7.0	5.70	20	6	57	0.5	64471	64472
						1.0	64473	64474
8.00	10.0	7.70	30	8	63	0.5	64475	64476
						1.0	64477	64478
10.00	12.0	9.60	35	10	72	0.5	64479	64480
						1.0	64481	64482
12.00	14.0	11.50	40	12	83	0.5	64485	64486
						1.0	64487	64488

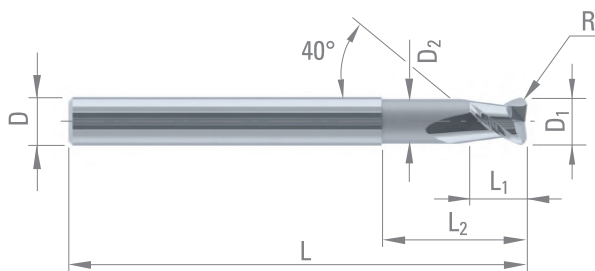
DIXI 7552

END MILLS WITH CORNER RADIUS
NECKED DOWN

Z = 2



P. 202



Steel + Pb	Low alloyed steel	Cast iron	Titanium, titanium alloy	Cu alloy Silver Gold
Cu alloy difficult to machine	Alu	Plastic		

Roughing
●●●●○

Finishing
●●●●○

$D_{1 e8}$	L_1	D_2	L_2	D_{h5}	L	R	CARBIDE	DICUT
3.00	4.0	2.75	10	6	57	0.5	60765	63493
4.00	5.0	3.70	12	6	57	0.5	60766	63494
5.00	6.0	4.60	15	6	57	0.5	60767	63495
6.00	7.0	5.50	18	6	57	1.0	60768	63496
8.00	9.0	7.50	23	8	63	1.0	60769	63497
10.00	11.0	9.25	30	10	75	1.5	60770	63498
12.00	13.0	11.00	35	12	83	1.5	60771	63499
16.00	17.0	15.00	44	16	92	2.0	60772	952918

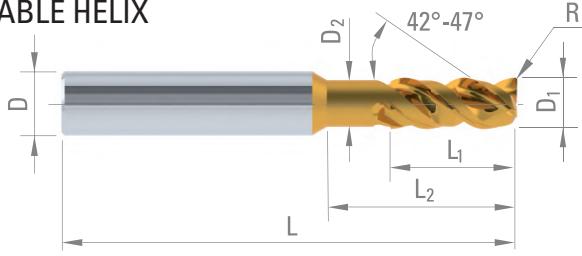


DIXI 7565 - 7565-FC DIXAL

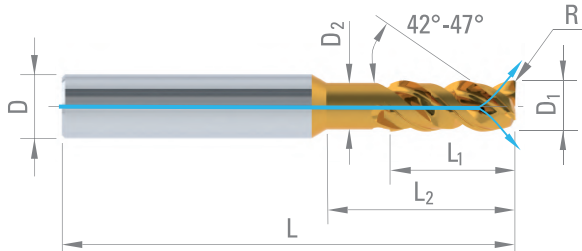
END MILLS WITH CORNER RADIUS
AND VARIABLE HELIX

Z = 3

7565



7565-FC



P. 206

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

Plastic

Roughing



Finishing



7565



7565-FC



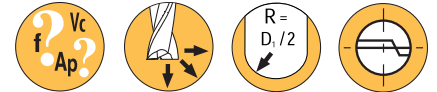
D ₁	L ₁	D ₂	L ₂	D _{h5}	L	R	DIXAL	DIXAL
4.00	9.0	3.60	14	4	57	0.5	339042	
						1.0	339043	
6.00	13.0	5.60	21	6	57	0.5	339044	339067
						1.0	339045	339068
						1.5	339046	339069
8.00	19.0	7.40	26	8	63	0.5	339047	339070
						1.0	339048	339071
						2.0	339049	339072
						3.0	339050	339073
10.00	22.0	9.30	30	10	72	0.5	339051	339074
						1.0	339052	339075
						2.0	339053	339076
						3.0	339054	339077
12.00	26.0	11.00	37	12	83	0.5	339055	339078
						1.0	339056	339079
						2.0	339057	339080
						3.0	339058	339081
16.00	32.0	15.00	42	16	92	1.0	339059	339082
						2.0	339060	339083
						3.0	339061	339084
						4.0	339062	339085
20.00	38.0	19.00	50	20	104	1.0	339063	339086
						2.0	339064	339087
						3.0	339065	339088
						4.0	339066	339089



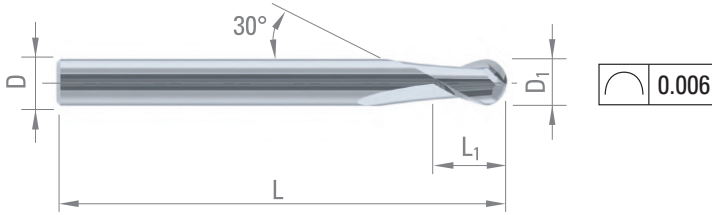
DIXI 7032

BALL-NOSE END MILLS

Z = 2

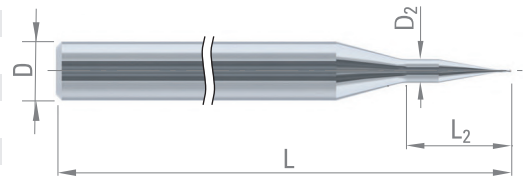


P. 154

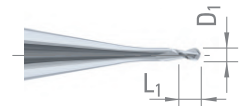


Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic			

D ₁	L ₁	D _{h5}	L	CARBIDE	TiAIN	DICUT	DIAMANT*	Roughing	Finishing
0.06	0.12	3	38	959060				○○○○○	○○○○○
0.08	0.16	3	38	959059				○○○○○	○○○○○
0.10	0.20	3	38	959058				○○○○○	○○○○○
0.15	0.30	3	38	954665				○○○○○	○○○○○
0.20	0.30	3	38	952795	952796	952797	952799	○○○○○	○○○○○
0.25	0.40	3	38	952800	952801	952802	952803	○○○○○	○○○○○
0.30	0.50	3	38	952804	952805	952806	58852	○○○○○	○○○○○
0.40	0.60	3	38	952807	952808	952809	952810	○○○○○	○○○○○
0.50	0.80	3	38	952811	952812	952813	952814	○○○○○	○○○○○
0.60	0.90	3	38	952815	952816	952817	952818	○○○○○	○○○○○
0.70	1.10	3	38	952819	952820	952821	950363	○○○○○	○○○○○
0.80	1.20	3	38	952822	952823	950703	950364	○○○○○	○○○○○
0.90	1.40	3	38	952825	952826	952824	950365	○○○○○	○○○○○
1.00	1.50	3	38	952827	952828	952829	952830	○○○○○	○○○○○
1.10	1.70	3	38	952832	952833	952831	950366	○○○○○	○○○○○
1.20	1.80	3	38	952835	952836	952834	950367	○○○○○	○○○○○
1.30	1.90	3	38	952838	952839	952837	950368	○○○○○	○○○○○
1.40	2.10	3	38	952841	952842	952840	950369	○○○○○	○○○○○
1.50	2.30	3	38	952843	952846	952845	952844	○○○○○	○○○○○
1.60	2.50	3	38	55539	955784	956236	956237	○○○○○	○○○○○
1.70	2.50	3	38	60112	956238	956239	956240	○○○○○	○○○○○
1.80	2.75	3	38	48747	956241	956242	956243	○○○○○	○○○○○
1.90	2.75	3	38	57714	956244	956245	956246	○○○○○	○○○○○
2.00	3.00	3	38	44604	56136	64280	59783	○○○○○	○○○○○
2.10	3.00	3	38	55540	956247	956248	956249	○○○○○	○○○○○
2.20	3.50	3	38	48457	956250	956251	956253	○○○○○	○○○○○
2.30	3.50	3	38	66547	62925	956254	956255	○○○○○	○○○○○
2.40	3.50	3	38	60788	62926	956256	956257	○○○○○	○○○○○
2.50	4.00	3	38	44605	56137	64288	60221	○○○○○	○○○○○
3.00	5.00	3	38	43115	56138	63876	59988	○○○○○	○○○○○
3.50	6.00	4	50	44607	56139	64289	950370	○○○○○	○○○○○
4.00	6.00	4	50	34120	56140	64290	59784	○○○○○	○○○○○
4.50	7.00	5	50	44609	56141	64291	950371	○○○○○	○○○○○
5.00	8.00	5	50	34748	36172	64292	60222	○○○○○	○○○○○
5.50	9.00	6	57	44611	56172	64293	950372	○○○○○	○○○○○
6.00	9.00	6	57	34749	56179	63923	46800	○○○○○	○○○○○
7.00	11.00	7	60	34740	56176	64294	66878	○○○○○	○○○○○
8.00	12.00	8	63	43389	36174	64295	58860	○○○○○	○○○○○
10.00	15.00	10	72	42940	56177	63924	36175	○○○○○	○○○○○
12.00	18.00	12	73	32387	56173	64296	60223	○○○○○	○○○○○
16.00	24.00	16	82	32136	56175			○○○○○	○○○○○



For **D₁ ≤ 0.15:**
D₂ = 1.20
L₂ = 5.30

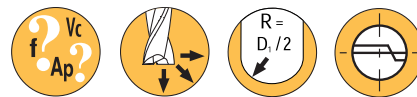


* for non-ferrous material

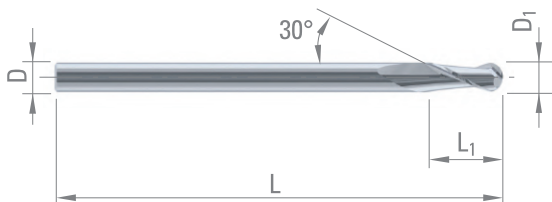


BALL-NOSE END MILLS

Z = 2



P. 160



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic			

Roughing



Finishing



D _{1 e8}	L ₁	D _{h5}	L	CARBIDE	TiAIN	DIAMANT*
2.00	10	2	61	41974	56238	60224
3.00	10	3	61	39512	56239	60225
4.00	12	4	75	38639	56240	60226
5.00	14	5	86	38942	56241	60227
6.00	16	6	93	38623	56242	60228
8.00	20	8	100	38640	56243	60229
10.00	24	10	100	38641	56244	58790
12.00	28	12	110	40728	56245	60230
16.00	36	16	120	40730	56247	
20.00	45	20	150	40732	56248	

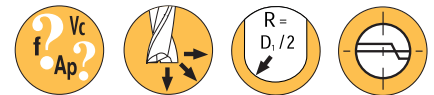
* for non-ferrous material



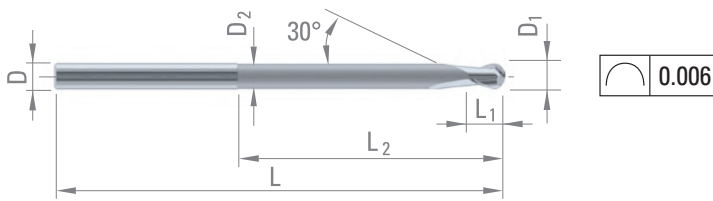
DIXI 7046

BALL-NOSE END MILLS NECKED DOWN

Z = 2



P. 158



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic	Roughing ○○○○○		Finishing ●●●●●

D ₁	L ₁	D ₂	L ₂	D _{h5}	L	CARBIDE	TiAIN	DICUT	DIAMANT*
0.20	0.5	0.18	1.0	4	55	64714	64719	64724	64729
0.30	0.6	0.27	1.5	4	55	64715	64720	64725	64730
0.40	0.8	0.37	2.0	4	55	64716	64721	64726	64731
0.50	1.0	0.45	3.0	4	55	64542	64556	64572	64584
0.60	1.6	0.55	4.0	4	55	64717	64722	64727	64732
0.80	1.8	0.75	5.0	4	55	64718	64723	64728	64733
1.00	2.0	0.95	6.0	4	55	64544	64557	64573	64585
1.50	2.5	1.45	9.0	4	55	64546	64558	64574	64586
2.00	3.0	1.90	12.0	4	55	64547	64559	64575	64587
2.50	4.0	2.40	12.0	4	55	64548	64560	64576	64588
3.00	5.0	2.80	12.0	6	57	64549	64561	64577	64589
4.00	6.0	3.80	15.0	6	57	64550	64562	64578	64590
5.00	7.0	4.80	15.0	6	57	64551	64567	64579	64591
6.00	8.0	5.70	15.0	6	57	64552	64568	64580	64592
8.00	10.0	7.70	25.0	8	63	64553	64569	64581	64593
10.00	12.0	9.60	30.0	10	72	64554	64570	64582	64594
12.00	14.0	11.60	40.0	12	83	64555	64571	64583	64595

* for non-ferrous material



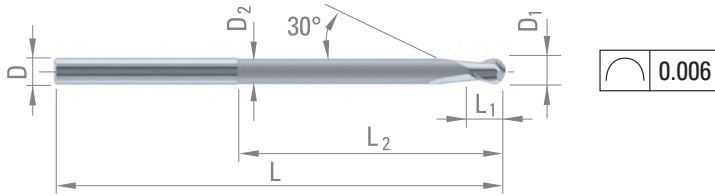
DIXI 7045 - 7047-D

BALL-NOSE END MILLS NECKED DOWN

Z = 2



P. 158



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic	Roughing ○○○○		Finishing ●●●●

D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	TiAIN	DICUT	DIAMANT*
0.20	0.5	0.18	4	62	1.0	7045	64694	64699	64704	64709
					1.6	7047-8D	979531	979555	979576	979595
0.20	0.5	0.18	4	62	2.0	7047-10D	64735	64742	64750	64755
					2.4	7047-12D	979613	979626	979639	979664
					3.0	7047-15D	979711	979722	979732	979744
					3.6	7047-18D	979756	979768	979779	979790
					1.5	7045	64695	64700	64705	64710
					2.4	7047-8D	979534	979558	979578	979596
0.30	0.6	0.27	4	62	3.0	7047-10D	64738	64743	64751	64756
					3.6	7047-12D	979614	979627	979640	979652
					4.5	7047-15D	979712	979724	979733	979745
					5.4	7047-18D	979757	979769	979780	979791
					2.0	7045	64696	64701	64706	64711
					3.2	7047-8D	979535	979559	979579	979597
0.40	0.8	0.37	4	62	4.0	7047-10D	64739	64744	64752	64757
					4.8	7047-12D	979615	979628	979641	979653
					6.0	7047-15D	979713	979723	979734	979746
					7.2	7047-18D	979758	979770	979781	979792
					3.0	7045	64491	64503	64515	64527
					4.0	7047-8D	979536	979560	979580	979598
0.50	1.0	0.45	4	62	5.0	7047-10D	64596	64608	64623	64635
					6.0	7047-12D	979616	979629	979642	979654
					7.5	7047-15D	979714	979725	979735	979747
					9.0	7047-18D	979759	979771	979782	979793
					4.0	7045	64697	64702	64707	64712
					4.8	7047-8D	979537	979561	979581	979599
0.60	1.6	0.55	4	62	6.0	7047-10D	64740	64745	64753	64758
					7.2	7047-12D	979617	979630	979643	979655
					9.0	7047-15D	979715	979726	979736	979748
					10.8	7047-18D	979760	979772	979783	979794
					5.0	7045	64698	64703	64708	64713
					6.4	7047-8D	979538	979562	979582	979600
0.80	1.8	0.75	4	62	8.0	7047-10D	64741	64746	64754	64759
					9.6	7047-12D	979618	979631	979644	979656
					12.0	7047-15D	979716	979727	979737	979749
					14.4	7047-18D	979761	979773	979784	979795
					6.0	7045	64492	64504	64516	64528
					8.0	7047-8D	979540	979563	979583	979601
1.00	2.0	0.95	4	75	10.0	7047-10D	64597	64609	64624	64636
					12.0	7047-12D	979619	954101	979314	979657
					15.0	7047-15D	975225	979728	979738	979750
					18.0	7047-18D	979522	979774	979785	979523
					9.0	7045	64493	64505	64517	64529
					12.0	7047-8D	979541	979565	979585	979602
1.50	2.5	1.45	4	75	15.0	7047-10D	64598	64610	64625	64637
					18.0	7047-12D	979620	979632	979645	979658
					22.5	7047-15D	979717	979729	979739	979751
					27.0	7047-18D	979763	979775	979786	979799
					9.0	7045	64493	64505	64517	64529
					12.0	7047-8D	979541	979565	979585	979602

* for non-ferrous material

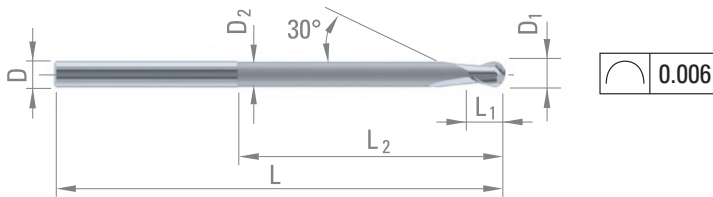


DIXI 7045 - 7047-D

Z = 2



P. 158



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic	Roughing ○○○○ ○ Finishing ●●●● ●		

D ₁	L ₁	D ₂	D _{h5}	L	L ₂	DIXI	CARBIDE	TiAIN	DICUT	DIAMANT*
2.00	3.0	1.90	4	75	12.0	7045	64494	64506	64518	64530
					16.0	7047-8D	979542	979566	979588	979603
					20.0	7047-10D	64599	64611	64626	64638
					24.0	7047-12D	979621	979633	979646	979659
					30.0	7047-15D	972993	954105	979740	979752
					36.0	7047-18D	979765	979776	979787	979796
2.50	4.0	2.40	4	75	12.0	7045	64495	64507	64519	64531
					20.0	7047-8D	979544	979567	979589	979604
					25.0	7047-10D	64600	64612	64627	64639
					30.0	7047-12D	979622	979635	979648	979660
					37.5	7047-15D	979719	979718	979741	979753
3.00	5.0	2.80	6	102	12.0	7045	64496	64508	64520	64532
					24.0	7047-8D	979545	979568	979590	979605
					30.0	7047-10D	64601	64613	64628	64640
					36.0	7047-12D	979623	979636	979649	979661
					45.0	7047-15D	979720	979730	979742	979754
4.00	6.0	3.80	6	102	15.0	7045	64497	64509	64521	64533
					32.0	7047-8D	979547	979569	979591	979607
					40.0	7047-10D	64602	64614	64629	64641
					48.0	7047-12D	979624	979637	979650	979662
					60.0	7047-15D	979721	979731	979743	979755
5.00	7.0	4.80	6	102	15.0	7045	64498	64510	64522	64534
					40.0	7047-8D	979549	979570	979592	979608
					50.0	7047-10D	64603	64615	64630	64642
					60.0	7047-12D	979625	979638	979651	979663
6.00	8.0	5.70	6	102	15.0	7045	64499	64511	64523	64536
					48.0	7047-8D	979550	979571	979593	979609
					60.0	7047-10D	64604	64616	64631	64643
8.00	10.0	7.70	8	117	25.0	7045	64500	64512	64524	64537
					64.0	7047-8D	979551	979572	979594	979610
					80.0	7047-10D	64605	64617	64632	64644
10.00	12.0	9.60	10	133	30.0	7045	64501	64513	64525	64538
					80.0	7047-8D	979552	979573	979586	979611
					90.0	7047-10D	64606	64618	64633	64645
12.00	14.0	11.60	12	151	40.0	7045	64502	64514	64526	64539
					96.0	7047-8D	979553	979574	979587	979612
					110.0	7047-10D	64607	64619	64634	64646

* for non-ferrous material

DIXI 7045 $L_2 = 2.5-6 \times D_1$

DIXI 7047-12D $L_2 = 12 \times D_1$

DIXI 7047-8D $L_2 = 8 \times D_1$

DIXI 7047-15D $L_2 = 15 \times D_1$

DIXI 7047-10D $L_2 = 10 \times D_1$

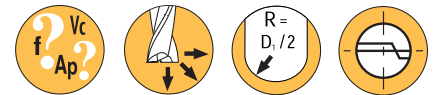
DIXI 7047-18D $L_2 = 18 \times D_1$



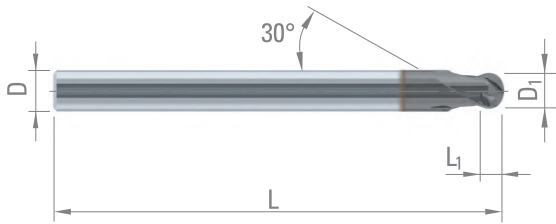
DIXI 7532 XIDUR

BALL-NOSE END MILLS

Z = 2



P. 208



0.006

High alloyed steel

Steel
Cast iron
> 45 HRC

Refractory alloy

Roughing



Finishing



D ₁	L ₁	D _{h5}	L	XIDUR
Ø < 3.00 - 0/-0.02				
Ø ≥ 3.00 - e8				
0.20	0.2	4	50	973380
0.30	0.3	4	50	972176
0.40	0.4	4	50	973379
0.50	0.5	4	50	973378
0.60	0.6	4	50	973377
0.70	0.7	4	50	972177
0.80	0.8	4	50	973376
0.90	0.8	4	50	973375
1.00	0.8	4	50	67253
1.50	1.2	4	50	67254
2.00	1.6	4	50	67257
3.00	2.4	6	57	67258
4.00	3.2	6	66	67259
5.00	4.0	6	66	67260
6.00	4.8	6	66	67261
8.00	6.4	8	75	67262



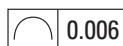
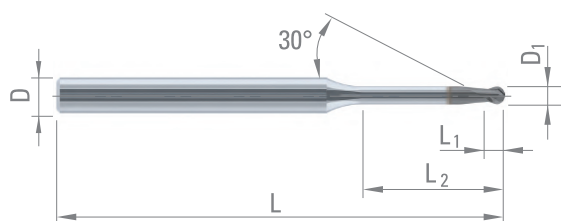
DIXI 7532-D XIDUR

BALL-NOSE END MILLS

Z = 2



P. 208



High alloyed steel

Steel
Cast iron
> 45 HRC

Refractory alloy

Roughing



Finishing



D ₁	L ₁	D _{h5}	L	L ₂	DIXI	XIDUR
0.20	0.2	4	50	0.6	7532-3D	978593
				1.0	7532-5D	979083
0.30	0.3	4	50	1.6	7532-8D	979102
				0.9	7532-3D	979058
				1.5	7532-5D	979084
0.40	0.4	4	50	2.4	7532-8D	979103
				1.2	7532-3D	979059
				2.0	7532-5D	979085
				3.2	7532-8D	979104
0.50	0.5	4	50	4.0	7532-10D	979116
				1.5	7532-3D	979060
				2.5	7532-5D	979086
				4.0	7532-8D	979105
				5.0	7532-10D	979117
				6.0	7532-12D	979136
0.60	0.6	4	50	1.8	7532-3D	979061
				3.0	7532-5D	979087
				4.8	7532-8D	979106
				6.0	7532-10D	979118
				7.2	7532-12D	979137
				9.0	7532-15D	979144
				2.1	7532-3D	979062
				3.5	7532-5D	979088
0.70	0.7	4	50	5.6	7532-8D	979107
				7.0	7532-10D	979119
				8.4	7532-12D	979138
				10.5	7532-15D	979145
				2.4	7532-3D	979063
				4.0	7532-5D	979089
0.80	0.8	4	50	6.4	7532-8D	979108
				8.0	7532-10D	979120
				9.6	7532-12D	979139
				12.0	7532-15D	979146
				2.7	7532-3D	979064
				4.5	7532-5D	979091
0.90	0.8	4	50	7.2	7532-8D	979109
				9.0	7532-10D	979121
				10.8	7532-12D	979140
				13.5	7532-15D	979147
				3.0	7532-3D	979065
				5.0	7532-5D	979092
1.00	0.8	4	50	8.0	7532-8D	979111
				10.0	7532-10D	979122
				12.0	7532-12D	979141
				15.0	7532-15D	979148
				4.5	7532-3D	979066
				7.5	7532-5D	979093
1.50	1.2	4	50	12.0	7532-8D	979112
				15.0	7532-10D	979123
				18.0	7532-12D	979142
				22.5	7532-15D	979149

DIXI 7532-3D

$$L_2 = 3 \times D_1$$

DIXI 7532-5D

$$L_2 = 5 \times D_1$$

DIXI 7532-8D

$$L_2 = 8 \times D_1$$

DIXI 7532-10D

$$L_2 = 10 \times D_1$$

DIXI 7532-12D

$$L_2 = 12 \times D_1$$

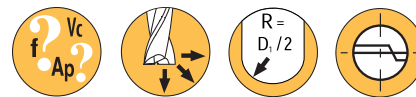
DIXI 7532-15D

$$L_2 = 15 \times D_1$$



DIXI 7532-D XIDUR

Z = 2



P. 208

D ₁	L ₁	D _{h5}	L	L ₂	DIXI	XIDUR
Ø < 3.00 - 0/-0.02						
Ø ≥ 3.00 - e8						
2.00	1.6	4	50	6.0	7532-3D	979067
				10.0	7532-5D	979094
				16.0	7532-8D	979113
				20.0	7532-10D	979124
				24.0	7532-12D	979143
3.00	2.4	6	57	30.0	7532-15D	979150
				9.0	7532-3D	979068
				15.0	7532-5D	979095
				24.0	7532-8D	979114
				30.0	7532-10D	979125
4.00	3.2	6	66	12.0	7532-3D	979069
				20.0	7532-5D	979096
				32.0	7532-8D	979115
5.00	4.0	6	66	15.0	7532-3D	979070
				25.0	7532-5D	979097
6.00	4.8	6	66	18.0	7532-3D	979071
				30.0	7532-5D	979098
8.00	6.4	8	66	24.0	7532-3D	979072
				40.0	7532-5D	979099
10.00	8.0	10	66	30.0	7532-3D	979073
				50.0	7532-5D	979100

High alloyed steel

Steel Cast iron > 45 HRC

Refractory alloy

Roughing



Finishing



DIXI 7532-3D

$$L_2 = 3 \times D_1$$

DIXI 7532-5D

$$L_2 = 5 \times D_1$$

DIXI 7532-8D

$$L_2 = 8 \times D_1$$

DIXI 7532-10D

$$L_2 = 10 \times D_1$$

DIXI 7532-12D

$$L_2 = 12 \times D_1$$

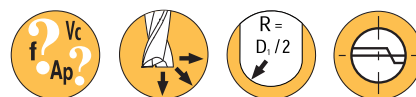
DIXI 7532-15D

$$L_2 = 15 \times D_1$$

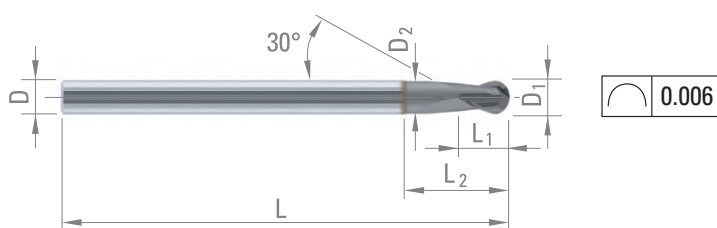
DIXI 7542 XIDUR

BALL-NOSE END MILLS
NECKED DOWN

Z = 2



P. 209



High alloyed steel

Steel Cast iron > 45 HRC

Refractory alloy

Roughing



Finishing

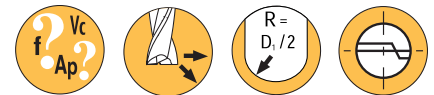


D ₁	L ₁	D ₂	L ₂	D _{h5}	L	XIDUR
Ø < 3.00 - 0/-0.02						
Ø ≥ 3.00 - e8						
1.00	2.0	0.90	3.2	6	66	61355
1.50	3.0	1.40	4.7	6	66	61356
2.00	3.0	1.85	6.2	6	66	61357
3.00	5.0	2.85	9.2	6	66	61358
4.00	6.0	3.80	12.5	6	80	61359
5.00	7.0	4.70	15.5	6	80	61360
6.00	9.0	5.70	19.0	6	80	61361
8.00	12.0	7.50	25.0	8	90	61362
10.00	15.0	9.50	31.0	10	110	61363
12.00	18.0	11.50	37.0	12	120	61364

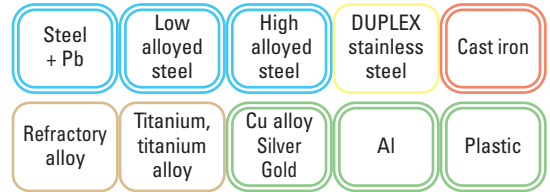
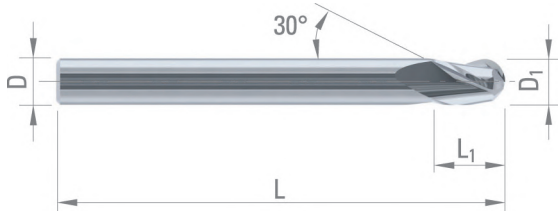
DIXI 7033

BALL-NOSE END MILLS

Z = 3



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Roughing
●○○○○○

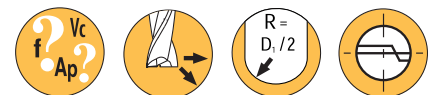
Finishing
●●●●○

D ₁	L ₁	D _{h5}	L	CARBIDE	TiAIN
1.00	2.0	3	38	45950	56154
1.50	2.5	3	38	45230	56155
2.00	3.0	3	38	45231	56156
2.50	4.0	3	38	45232	56157
3.00	5.0	3	38	43637	56158
4.00	6.0	4	50	43638	56159
5.00	8.0	5	50	43639	56162
6.00	9.0	6	57	42993	56163
8.00	12.0	8	63	32969	56165
10.00	15.0	10	72	32970	56166

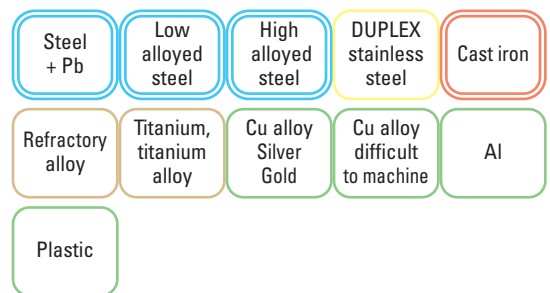
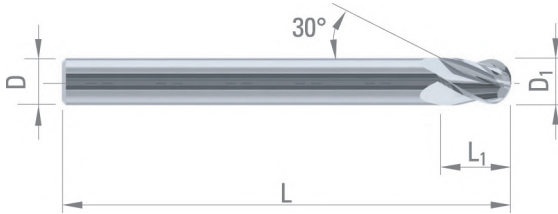
DIXI 7034

BALL-NOSE END MILLS

Z = 4



P. 156



Roughing
●○○○○○

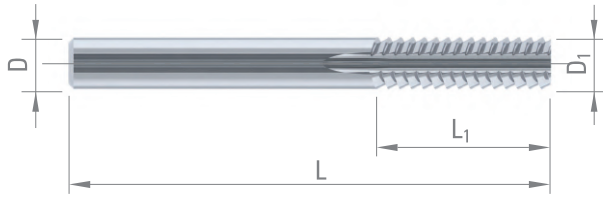
Finishing
●●●●○

D _{1 e8}	L ₁	D _{h5}	L	CARBIDE	TiAIN
8.00	12	8	63	43641	
12.00	18	12	73	32975	56149
14.00	21	14	75	32976	
16.00	24	16	82	42827	56151

DIXI 7112

ROUTERS FOR COMPOSITES / KEVLAR®

Z = 2



Roughing



Finishing



D ₁	inches	L ₁	D _{h5}	L	CARBIDE
5.00		20	5.00	75	26252
6.00		25	6.00	75	26873
6.35	1/4"	25	6.35	75	26264
8.00		25	8.00	75	27851
10.00		25	10.00	75	28072
12.70	1/2"	27	12.70	75	26254

CUTTING CONDITIONS:

Routing

V_c = 250 - 500 m/min

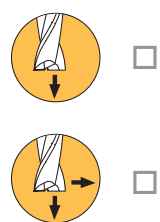
V_f = 500 - 2000 mm/min





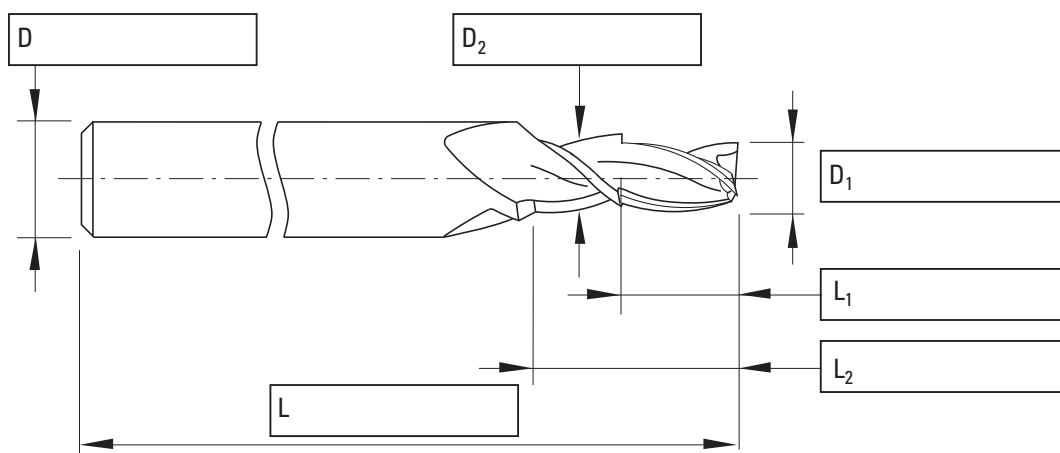
TOOLS ON REQUEST

DIXI 7631 SP R L Z =



Quantity

Material to be machined

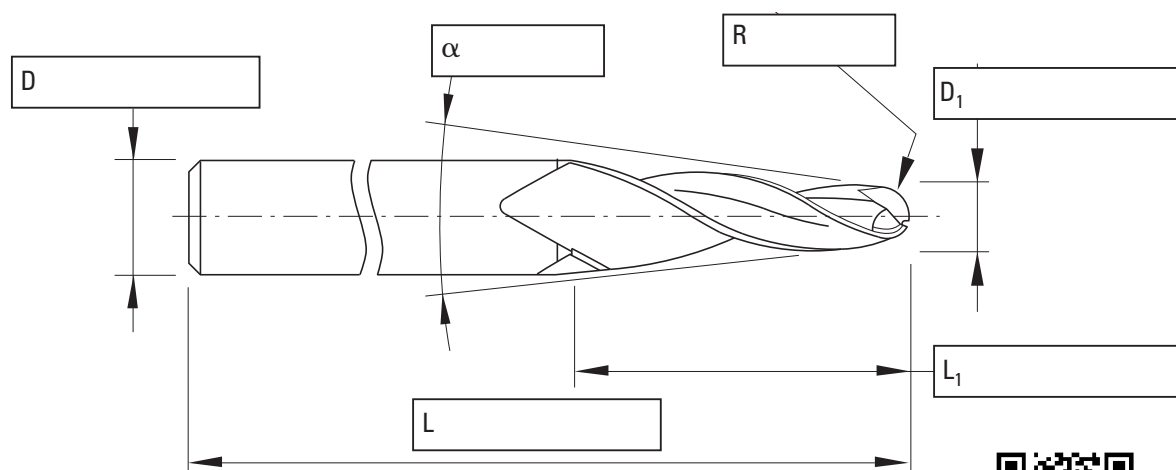
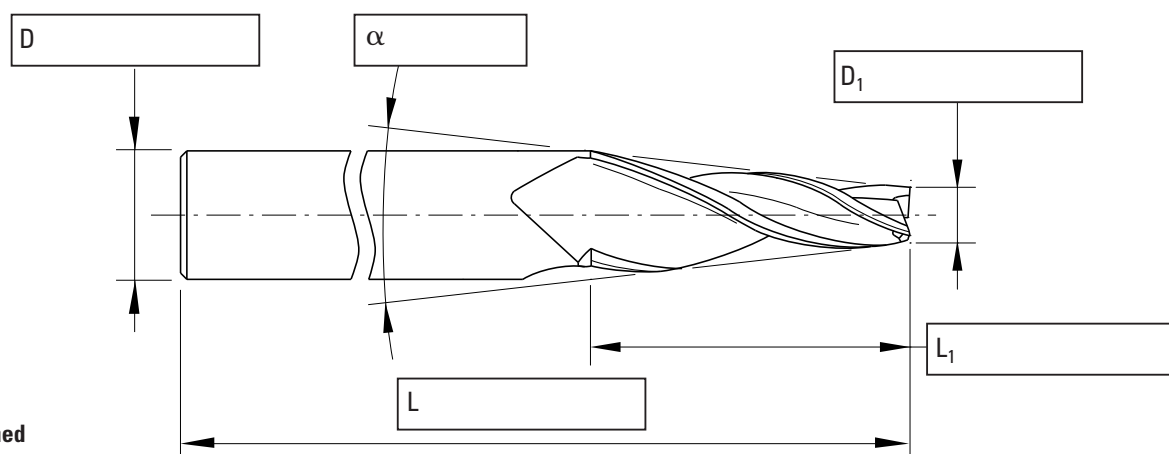


DIXI 7645 SP R L

Z =

Quantity

Material to be machined



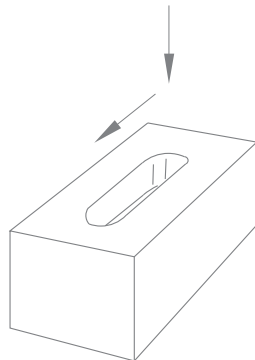
VISIT OUR E-QUOTATION ON WWW.DIXIPOLYTOOL.COM



CHOOSING THE NUMBER OF TEETH



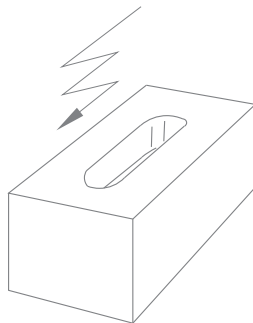
1 Key Slotting



Z2



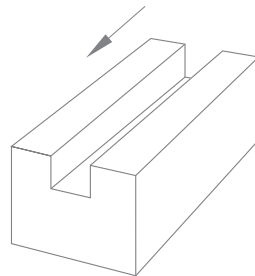
2 Ramping



Z2 - Z3



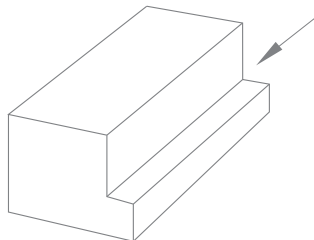
3 Slotting



Z2 - Z3



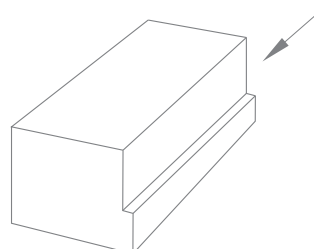
Routing (roughing)



Z3 - Z4



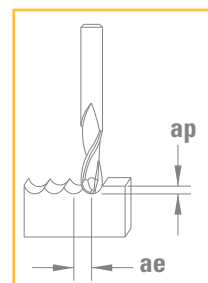
Routing (finishing)



Multi-tooth



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		DICUT	TiAlN	DIAMANT	ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]		
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100			90 110	<0.15 x ØD1	<0.5 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²				70 90		<0.15 x ØD1	<0.5 x ØD1
P	Lead alloyed cutting steel		70	100				<0.2 x ØD1	<0.5 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²				40 70		<0.15 x ØD1	<0.5 x ØD1
M	Stainless steel	400 – 700 N/mm ²				70 90		<0.15 x ØD1	<0.5 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²				40 70		<0.1 x ØD1	<0.4 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100		90 110		<0.1 x ØD1	<0.4 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70		70 90		<0.15 x ØD1	<0.5 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100		90 110		<0.1 x ØD1	<0.4 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy				25 35		<0.05 x ØD1	<0.25 x ØD1
S	Titanium, titanium alloys		30	45				<0.15 x ØD1	<0.5 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160				<0.15 x ØD1	<0.5 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	120	140	170 190	170 190		<0.15 x ØD1	<0.5 x ØD1
N	Aluminium alloys	Si < 8%	180	260		230 340		<0.25 x ØD1	<0.5 x ØD1
N	Cast aluminium	Si > 8%	140	160		210 230		<0.25 x ØD1	<0.5 x ØD1
N	Graphite						200 300	<0.3 x ØD1	<0.6 x ØD1
N	Plastic		240	260		300 340		<0.3 x ØD1	<0.6 x ØD1
N	Gold, silver		140	160		200 220		<0.15 x ØD1	<0.5 x ØD1



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

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

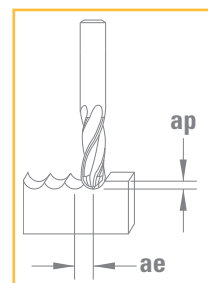
Feed per tooth

fz [mm]

$\emptyset D_1$ 0.06 - 0.60	$\emptyset D_1$ 0.60 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.0016 - 0.005	0.003 - 0.009	0.005 - 0.01	0.008 - 0.02	0.016 - 0.05	0.026 - 0.06	0.036 - 0.09	0.05 - 0.13	0.07 - 0.15	0.08 - 0.18
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0020 - 0.008	0.004 - 0.013	0.007 - 0.02	0.010 - 0.03	0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0016 - 0.005	0.003 - 0.009	0.005 - 0.01	0.008 - 0.02	0.016 - 0.05	0.026 - 0.06	0.036 - 0.09	0.05 - 0.13	0.07 - 0.15	0.08 - 0.18
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0016 - 0.005	0.003 - 0.009	0.005 - 0.01	0.008 - 0.02	0.016 - 0.05	0.026 - 0.06	0.036 - 0.09	0.05 - 0.13	0.07 - 0.15	0.08 - 0.18
		0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0020 - 0.008	0.004 - 0.013	0.007 - 0.02	0.010 - 0.03	0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26
0.0012 - 0.004	0.002 - 0.007	0.004 - 0.01	0.006 - 0.02	0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13
0.0020 - 0.008	0.004 - 0.013	0.007 - 0.02	0.010 - 0.03	0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26
0.0020 - 0.008	0.004 - 0.013	0.007 - 0.02	0.010 - 0.03	0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26
0.0027 - 0.012	0.005 - 0.020	0.009 - 0.03	0.014 - 0.05	0.027 - 0.10	0.046 - 0.14	0.064 - 0.20	0.09 - 0.27	0.13 - 0.31	0.15 - 0.39
0.0027 - 0.012	0.005 - 0.020	0.009 - 0.03	0.014 - 0.05	0.027 - 0.10	0.046 - 0.14	0.064 - 0.20	0.09 - 0.27	0.13 - 0.31	0.15 - 0.39
0.0020 - 0.008	0.004 - 0.013	0.007 - 0.02	0.010 - 0.03	0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		TiAlN				ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]				
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110			<0.15 x ØD1	<0.3 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	90			<0.15 x ØD1	<0.3 x ØD1
P	Lead alloyed cutting steel		70	100					<0.2 x ØD1	<0.3 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			40	70			<0.1 x ØD1	<0.2 x ØD1
M	Stainless steel	400 – 700 N/mm ²			70	90			<0.15 x ØD1	<0.3 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	70			<0.1 x ØD1	<0.2 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	90	110			<0.15 x ØD1	<0.3 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	70	90			<0.1 x ØD1	<0.2 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	90	110			<0.15 x ØD1	<0.3 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			25	35			<0.1 x ØD1	<0.2 x ØD1
S	Titanium, titanium alloys		30	45					<0.1 x ØD1	<0.2 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160					<0.15 x ØD1	<0.3 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	120	140	170	190			<0.15 x ØD1	<0.3 x ØD1
N	Aluminium alloys	Si < 8%	180	260	230	340			<0.25 x ØD1	<0.3 x ØD1
N	Cast aluminium	Si > 8%	140	160	210	230			<0.25 x ØD1	<0.3 x ØD1
N	Plastic		240	260	300	340			<0.3 x ØD1	<0.4 x ØD1
N	Gold, silver		140	160	200	220			<0.15 x ØD1	<0.3 x ØD1



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

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

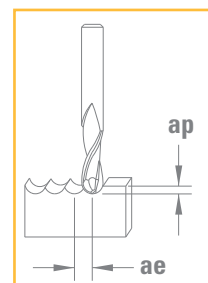
Feed per tooth

f_z [mm]

$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 20.00	
0.016 - 0.05	0.026 - 0.06	0.036 - 0.09	0.05 - 0.13	0.07 - 0.15	0.08 - 0.18	0.11 - 0.22	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26	0.13 - 0.29	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.016 - 0.05	0.026 - 0.06	0.036 - 0.09	0.05 - 0.13	0.07 - 0.15	0.08 - 0.18	0.11 - 0.21	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.016 - 0.05	0.026 - 0.06	0.036 - 0.09	0.05 - 0.13	0.07 - 0.15	0.08 - 0.18	0.11 - 0.21	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26	0.13 - 0.29	
0.012 - 0.03	0.020 - 0.05	0.027 - 0.07	0.04 - 0.09	0.05 - 0.10	0.06 - 0.13	0.09 - 0.17	
0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26	0.13 - 0.29	
0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26	0.13 - 0.29	
0.027 - 0.10	0.046 - 0.14	0.064 - 0.20	0.09 - 0.27	0.13 - 0.31	0.15 - 0.39	0.18 - 0.42	
0.020 - 0.07	0.033 - 0.09	0.046 - 0.13	0.07 - 0.18	0.09 - 0.21	0.10 - 0.26	0.13 - 0.29	



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		DICUT	TiAlN		DIAMANT	ap [mm]	ae [mm]	
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]				
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100		90	110		<0.15 x ØD1	<0.5 x ØD1	
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²				70	90		<0.15 x ØD1	<0.5 x ØD1	
P	Lead alloyed cutting steel		70	100					<0.2 x ØD1	<0.5 x ØD1	
P	High alloyed steel	700 – 1500 N/mm ²				40	70		<0.1 x ØD1	<0.4 x ØD1	
M	Stainless steel	400 – 700 N/mm ²				70	90		<0.15 x ØD1	<0.5 x ØD1	
M	DUPLEX stainless steel	> 800 N/mm ²				40	70		<0.1 x ØD1	<0.4 x ØD1	
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100		90	110		<0.15 x ØD1	<0.5 x ØD1	
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70		70	90		<0.1 x ØD1	<0.4 x ØD1	
K	Nodular ferritic cast iron / Malleable cast iron		70	100		90	110		<0.15 x ØD1	<0.5 x ØD1	
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy				25	35		<0.1 x ØD1	<0.1 x ØD1	
S	Titanium, titanium alloys		30	45					<0.1 x ØD1	<0.4 x ØD1	
N	Copper alloys - easy to machine (brass - bronze)		140	160					<0.15 x ØD1	<0.5 x ØD1	
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	120	140	170	190	170	190	<0.15 x ØD1	<0.5 x ØD1	
N	Aluminium alloys	Si < 8%	180	240		230	340		<0.25 x ØD1	<0.5 x ØD1	
N	Cast aluminium	Si > 8%	140	160				200	300	<0.25 x ØD1	<0.5 x ØD1
N	Graphite							200	300	<0.3 x ØD1	<0.6 x ØD1
N	Plastic		240	260		300	340		<0.3 x ØD1	<0.6 x ØD1	
N	Gold, silver		140	160		200	220		<0.15 x ØD1	<0.5 x ØD1	

n and Vf are indicative and shall be adjusted according to L₂



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

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

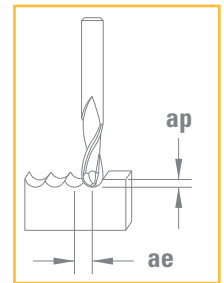
Feed per tooth

f_z [mm]

$\emptyset D_1$ 0.20 - 0.60	$\emptyset D_1$ 0.60 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00
0.0014 - 0.005	0.003 - 0.008	0.005 - 0.01	0.007 - 0.02	0.014 - 0.04	0.023 - 0.06	0.032 - 0.08	0.05 - 0.11
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0017 - 0.007	0.003 - 0.012	0.006 - 0.02	0.009 - 0.03	0.017 - 0.06	0.029 - 0.08	0.040 - 0.12	0.06 - 0.16
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0014 - 0.005	0.003 - 0.008	0.005 - 0.01	0.007 - 0.02	0.014 - 0.04	0.023 - 0.06	0.032 - 0.08	0.05 - 0.11
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0014 - 0.005	0.003 - 0.008	0.005 - 0.01	0.007 - 0.02	0.014 - 0.04	0.023 - 0.06	0.032 - 0.08	0.05 - 0.11
		0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0017 - 0.007	0.003 - 0.012	0.006 - 0.02	0.009 - 0.03	0.017 - 0.06	0.029 - 0.08	0.040 - 0.12	0.06 - 0.16
0.0010 - 0.003	0.002 - 0.006	0.003 - 0.01	0.005 - 0.015	0.010 - 0.03	0.017 - 0.04	0.024 - 0.06	0.03 - 0.08
0.0017 - 0.007	0.003 - 0.012	0.006 - 0.02	0.009 - 0.03	0.017 - 0.06	0.029 - 0.08	0.040 - 0.12	0.06 - 0.16
0.0017 - 0.007	0.003 - 0.012	0.006 - 0.02	0.009 - 0.03	0.017 - 0.06	0.029 - 0.08	0.040 - 0.12	0.06 - 0.16
0.0024 - 0.010	0.005 - 0.017	0.008 - 0.03	0.012 - 0.04	0.024 - 0.09	0.040 - 0.12	0.056 - 0.17	0.08 - 0.24
0.0024 - 0.010	0.005 - 0.017	0.008 - 0.03	0.012 - 0.04	0.024 - 0.09	0.040 - 0.12	0.056 - 0.17	0.08 - 0.24
0.0017 - 0.007	0.003 - 0.012	0.006 - 0.02	0.009 - 0.03	0.017 - 0.06	0.029 - 0.08	0.040 - 0.12	0.06 - 0.16



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		TiAlN		DIAMANT		ap [mm]	ae [mm]
			Vc [m/min]		Vc [m/min]		Vc [m/min]			
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	60	90	80	100			<0.1 x ØD1	<0.3 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			60	80			<0.1 x ØD1	<0.3 x ØD1
P	Lead alloyed cutting steel		60	90	80	100			<0.15 x ØD1	<0.3 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			30	60			<0.05 x ØD1	<0.2 x ØD1
M	Stainless steel	400 – 700 N/mm ²			60	80			<0.1 x ØD1	<0.3 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			30	60			<0.05 x ØD1	<0.2 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	60	90	80	100			<0.1 x ØD1	<0.3 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	30	50	60	80			<0.05 x ØD1	<0.2 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		60	90	80	100			<0.1 x ØD1	<0.3 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			20	30			<0.05 x ØD1	<0.2 x ØD1
S	Titanium, titanium alloys		25	35	30	50			<0.05 x ØD1	<0.2 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		100	130	140	180			<0.1 x ØD1	<0.3 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	90	110	130	160			<0.1 x ØD1	<0.3 x ØD1
N	Aluminium alloys	Si < 8%	130	180	150	250			<0.2 x ØD1	<0.3 x ØD1
N	Cast aluminium	Si > 8%	100	130			200	300	<0.2 x ØD1	<0.3 x ØD1
N	Graphite						200	300	<0.25 x ØD1	<0.4 x ØD1
N	Plastic		180	220	200	250			<0.25 x ØD1	<0.4 x ØD1
N	Gold, silver		100	130	140	180			<0.1 x ØD1	<0.3 x ØD1



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

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

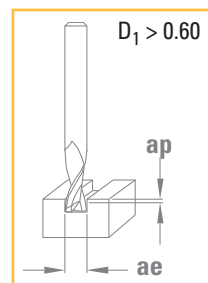
Feed per tooth

f_z [mm]

$\emptyset D_1$ 2.00 - 2.50	$\emptyset D_1$ 2.50 - 3.00	$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.010 - 0.021	0.012 - 0.03	0.014 - 0.03	0.019 - 0.04	0.024 - 0.05	0.029 - 0.07	0.038 - 0.08	0.05 - 0.12	0.07 - 0.13	0.08 - 0.17
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.012 - 0.030	0.015 - 0.04	0.018 - 0.05	0.024 - 0.06	0.030 - 0.07	0.036 - 0.10	0.048 - 0.12	0.06 - 0.17	0.08 - 0.19	0.10 - 0.24
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.010 - 0.021	0.012 - 0.03	0.014 - 0.03	0.019 - 0.04	0.024 - 0.05	0.029 - 0.07	0.038 - 0.08	0.05 - 0.12	0.07 - 0.13	0.08 - 0.17
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.010 - 0.021	0.012 - 0.03	0.014 - 0.03	0.019 - 0.04	0.024 - 0.05	0.029 - 0.07	0.038 - 0.08	0.05 - 0.12	0.07 - 0.13	0.08 - 0.17
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.012 - 0.030	0.015 - 0.04	0.018 - 0.05	0.024 - 0.06	0.030 - 0.07	0.036 - 0.10	0.048 - 0.12	0.06 - 0.17	0.08 - 0.19	0.10 - 0.24
0.007 - 0.015	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.018 - 0.04	0.022 - 0.05	0.029 - 0.06	0.04 - 0.08	0.05 - 0.10	0.06 - 0.12
0.012 - 0.030	0.015 - 0.04	0.018 - 0.05	0.024 - 0.06	0.030 - 0.07	0.036 - 0.10	0.048 - 0.12	0.06 - 0.17	0.08 - 0.19	0.10 - 0.24
0.012 - 0.030	0.015 - 0.04	0.018 - 0.05	0.024 - 0.06	0.030 - 0.07	0.036 - 0.10	0.048 - 0.12	0.06 - 0.17	0.08 - 0.19	0.10 - 0.24
0.017 - 0.045	0.021 - 0.05	0.025 - 0.07	0.034 - 0.09	0.042 - 0.11	0.050 - 0.14	0.067 - 0.18	0.08 - 0.25	0.12 - 0.29	0.13 - 0.36
0.017 - 0.045	0.021 - 0.05	0.025 - 0.07	0.034 - 0.09	0.042 - 0.11	0.050 - 0.14	0.067 - 0.18	0.08 - 0.25	0.12 - 0.29	0.13 - 0.36
0.012 - 0.030	0.015 - 0.04	0.018 - 0.05	0.024 - 0.06	0.030 - 0.07	0.036 - 0.10	0.048 - 0.12	0.06 - 0.17	0.08 - 0.19	0.10 - 0.24



CUTTING CONDITIONS



Materials to be machined			CARBIDE		TiAlN		DIAMANT		ap [mm]	ae [mm]
			Vc [m/min]		Vc [m/min]		Vc [m/min]			
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110			< 1 x ØD1	1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	90			< 0.6 x ØD1	1 x ØD1
P	Lead alloyed cutting steel		70	100					< 1 x ØD1	1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			40	70			< 0.5 x ØD1	1 x ØD1
M	Stainless steel	400 – 700 N/mm ²			70	90			< 0.8 x ØD1	1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	70			< 0.8 x ØD1	1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	90	110			< 1 x ØD1	1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	70	90			< 0.6 x ØD1	1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	90	110			< 0.6 x ØD1	1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			25	35			< 0.4 x ØD1	1 x ØD1
S	Titanium, titanium alloys		30	45					< 0.5 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160					< 1 x ØD1	1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	120	140	170	190			< 0.7 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	180	260	230	340			< 1.2 x ØD1	1 x ØD1
N	Cast aluminium	Si > 8%	140	160	210	230			< 0.9 x ØD1	1 x ØD1
N	Graphite						200	300	< 1 x ØD1	1 x ØD1
N	Plastic		240	260	300	340			< 1.2 x ØD1	1 x ØD1
N	Gold, silver		140	160	200	220			< 0.9 x ØD1	1 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$
 $D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$
 $D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$
 $D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$
 $D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$



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

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

Feed per tooth

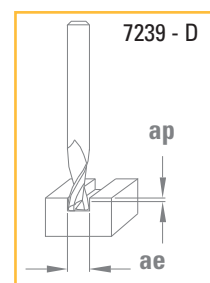
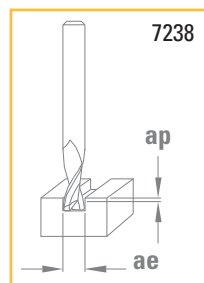
f_z [mm]

$\emptyset D_1$ 0.04 - 0.50	$\emptyset D_1$ 0.50 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 13.00	$\emptyset D_1$ 13.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.002 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.002 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.002 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
		0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.002 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.12	0.06 - 0.13	0.07 - 0.14
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.21	0.10 - 0.24	0.11 - 0.30
0.003 - 0.01	0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.06 - 0.14	0.07 - 0.16	0.08 - 0.20

The plunging feed (V_{fp}) of an end mill $Z = 2$ (drilling) must be reduced by 40 to 80 % depending on the material to be machined



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		TiAlN		ap	ae	ap	ae
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	[mm]	[mm]	[mm]	[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	90	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
P	Lead alloyed cutting steel		70	100			< 0.12x ØD1	1 x ØD1	< 0.06 x ØD1	1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			40	70	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
M	Stainless steel	400 – 700 N/mm ²			70	90	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	70	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	90	110	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	70	90	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	90	110	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			25	35	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
S	Titanium, titanium alloys		30	45			< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160			< 0.12 x ØD1	1 x ØD1	< 0.06 x ØD1	1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	120	140	170	190	< 0.1 x ØD1	1 x ØD1	< 0.04 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	180	260	230	340	< 0.12 x ØD1	1 x ØD1	< 0.06 x ØD1	1 x ØD1
N	Cast aluminium	Si > 8%	140	160	210	230	< 0.12 x ØD1	1 x ØD1	< 0.06 x ØD1	1 x ØD1
N	Plastic		240	260	300	340	< 0.15 x ØD1	1 x ØD1	< 0.10 x ØD1	1 x ØD1
N	Gold, silver		140	160	200	220	< 0.12 x ØD1	1 x ØD1	< 0.06 x ØD1	1 x ØD1

- D₁ ≤ 0.1 mm ⇒ (ap & ae) -95 %**
- D₁ ≤ 0.2 mm ⇒ (ap & ae) -85 %**
- D₁ ≤ 0.3 mm ⇒ (ap & ae) -70 %**
- D₁ ≤ 0.4 mm ⇒ (ap & ae) -50 %**
- D₁ ≤ 0.5 mm ⇒ (ap & ae) -25 %**

n and Vf are indicative and shall be adjusted according to L₂

The plunging feed (Vfp) of an end mill Z = 2 (drilling) must be reduced by 40 to 80 % depending on the material to be machined



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

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

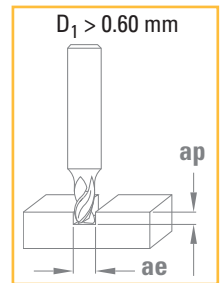
Feed per tooth

f_z [mm]

$\emptyset D_1$ 0.15 - 0.30	$\emptyset D_1$ 0.30 - 0.40	$\emptyset D_1$ 0.40 - 0.60	$\emptyset D_1$ 0.60 - 0.90	$\emptyset D_1$ 0.90 - 1.20	$\emptyset D_1$ 1.20 - 1.50	$\emptyset D_1$ 1.50 - 1.80	$\emptyset D_1$ 1.80 - 2.10	$\emptyset D_1$ 2.10 - 2.50	$\emptyset D_1$ 2.50 - 3.00
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.0003 - 0.001	0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.0003 - 0.001	0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
		0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04
0.002 - 0.003	0.002 - 0.004	0.003 - 0.01	0.008 - 0.012	0.010 - 0.015	0.012 - 0.016	0.013 - 0.02	0.015 - 0.022	0.02 - 0.025	0.022 - 0.04



CUTTING CONDITIONS



Materials to be machined			CARBIDE		TiAlN		ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]		
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110	< 1 x ØD1	1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	50	80	70	90	< 0.6 x ØD1	1 x ØD1
P	Lead alloyed cutting steel		70	100			< 1 x ØD1	1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			40	70	< 0.5 x ØD1	1 x ØD1
M	Stainless steel	400 – 700 N/mm ²	40	60	70	90	< 0.8 x ØD1	1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	70	< 0.5 x ØD1	1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	90	110	< 1 x ØD1	1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	70	90	< 0.6 x ØD1	1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	90	110	< 0.6 x ØD1	1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			25	35	< 0.4 x ØD1	1 x ØD1
S	Titanium, titanium alloys		30	45			< 0.5 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160			< 1 x ØD1	1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	120	140	170	190	< 0.7 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	180	260	230	340	< 1.2 x ØD1	1 x ØD1
N	Cast aluminium	Si > 8%	140	160	210	230	< 0.9 x ØD1	1 x ØD1
N	Graphite		140	160	200	220	< 0.9 x ØD1	1 x ØD1
N	Plastic		240	260	300	340	< 1.2 x ØD1	1 x ØD1
N	Gold, silver		140	160	200	220	< 0.9 x ØD1	1 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$
 $D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$
 $D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$
 $D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$
 $D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$



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

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

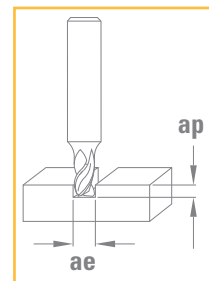
Feed per tooth

f_z [mm]

$\emptyset D_1$ 0.30 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.14
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11	0.05 - 0.11	0.06 - 0.12	0.07 - 0.13
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.006 - 0.015	0.005 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.21	0.10 - 0.24	0.11 - 0.30
0.006 - 0.015	0.005 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20



CUTTING CONDITIONS - SLOTTING



Materials to be machined			CUTINOX		ap
			Vc [m/min]		[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	100	170	< 1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	90	150	< 1 x ØD1
P	Lead alloyed cutting steel		120	180	< 1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²	50	90	< 0.7 x ØD1
M	Stainless steel	400 – 700 N/mm ²	60	95	< 1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²	50	90	< 0.7 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	140	180	< 1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	110	150	< 1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		100	140	< 1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	40	< 1 x ØD1
S	Titanium, titanium alloys		40	70	< 0.3 x ØD1

Cutting conditions based on oil lubrication.

For high alloyed steels (> 12% Chrome), stainless steels, titanium alloys, cutting speed shall be reduced by 20% when emulsion is used.

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

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

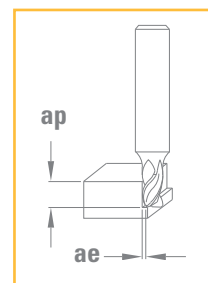
Feed per tooth

f_z [mm]

$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.010 - 0.017	0.013 - 0.035	0.020 - 0.055	0.023 - 0.070	0.029 - 0.080	0.035 - 0.090
0.009 - 0.015	0.012 - 0.030	0.017 - 0.045	0.020 - 0.060	0.025 - 0.070	0.030 - 0.080
0.013 - 0.023	0.017 - 0.045	0.026 - 0.068	0.030 - 0.090	0.038 - 0.105	0.045 - 0.120
0.007 - 0.013	0.010 - 0.025	0.015 - 0.040	0.017 - 0.050	0.021 - 0.060	0.026 - 0.070
0.009 - 0.015	0.012 - 0.030	0.017 - 0.045	0.020 - 0.060	0.025 - 0.070	0.030 - 0.080
0.007 - 0.013	0.010 - 0.025	0.015 - 0.040	0.017 - 0.050	0.021 - 0.060	0.026 - 0.070
0.013 - 0.023	0.017 - 0.045	0.026 - 0.068	0.030 - 0.090	0.038 - 0.105	0.045 - 0.120
0.012 - 0.020	0.016 - 0.040	0.023 - 0.060	0.027 - 0.080	0.034 - 0.095	0.041 - 0.110
0.012 - 0.020	0.016 - 0.040	0.023 - 0.060	0.027 - 0.080	0.034 - 0.095	0.041 - 0.110
0.004 - 0.010	0.005 - 0.013	0.007 - 0.020	0.010 - 0.023	0.013 - 0.026	0.013 - 0.033
0.010 - 0.017	0.013 - 0.035	0.020 - 0.055	0.023 - 0.070	0.029 - 0.080	0.035 - 0.090



CUTTING CONDITIONS - ROUTING



Materials to be machined			CUTINOX		ap [mm]	ae [mm]
			Vc [m/min]			
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	160	200	< 1 x ØD1	< 0.6 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	130	170	< 1 x ØD1	< 0.6 x ØD1
P	Lead alloyed cutting steel		160	200	< 1 x ØD1	< 0.6 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²	70	100	< 1 x ØD1	< 0.5 x ØD1
M	Stainless steel	400 – 700 N/mm ²	80	110	< 1 x ØD1	< 0.5 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²	70	100	< 1 x ØD1	< 0.5 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	160	200	< 1 x ØD1	< 0.6 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	130	170	< 1 x ØD1	< 0.6 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		110	150	< 1 x ØD1	< 0.6 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	50	< 1 x ØD1	< 0.3 x ØD1
S	Titanium, titanium alloys		40	70	< 1 x ØD1	< 0.6 x ØD1

Cutting conditions based on oil lubrication.

For high alloyed steels (> 12% Chrome), stainless steels, titanium alloys, cutting speed shall be reduced by 20% when emulsion is used.

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

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

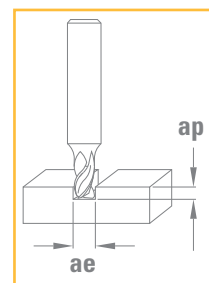
Feed per tooth

f_z [mm]

$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.019 - 0.045	0.029 - 0.070	0.040 - 0.100	0.052 - 0.115	0.057 - 0.130	0.063 - 0.155
0.017 - 0.040	0.023 - 0.065	0.035 - 0.085	0.046 - 0.105	0.052 - 0.115	0.058 - 0.135
0.029 - 0.065	0.035 - 0.100	0.052 - 0.130	0.069 - 0.155	0.081 - 0.175	0.086 - 0.210
0.014 - 0.035	0.017 - 0.050	0.029 - 0.070	0.040 - 0.085	0.046 - 0.090	0.052 - 0.110
0.017 - 0.040	0.023 - 0.065	0.035 - 0.085	0.046 - 0.105	0.052 - 0.115	0.058 - 0.135
0.014 - 0.035	0.017 - 0.050	0.029 - 0.070	0.040 - 0.085	0.046 - 0.090	0.052 - 0.110
0.029 - 0.065	0.035 - 0.100	0.052 - 0.130	0.069 - 0.155	0.081 - 0.175	0.086 - 0.210
0.024 - 0.055	0.029 - 0.085	0.044 - 0.111	0.059 - 0.132	0.068 - 0.149	0.073 - 0.179
0.024 - 0.055	0.029 - 0.085	0.044 - 0.111	0.059 - 0.132	0.068 - 0.149	0.073 - 0.179
0.007 - 0.017	0.009 - 0.025	0.012 - 0.035	0.017 - 0.040	0.023 - 0.050	0.026 - 0.060
0.019 - 0.045	0.029 - 0.070	0.040 - 0.100	0.052 - 0.115	0.057 - 0.130	0.063 - 0.155



CUTTING CONDITIONS - SLOTTING



Materials to be machined

CUTINOX

			Vc [m/min]		ap [mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	100	170	< 1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	90	150	< 1 x ØD1
P	Lead alloyed cutting steel		120	180	< 1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²	50	90	< 0.7 x ØD1
M	Stainless steel	400 – 700 N/mm ²	60	95	< 1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²	50	90	< 0.7 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	140	180	< 1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	110	150	< 1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		100	140	< 1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	50	< 0.3 x ØD1
S	Titanium, titanium alloys		40	70	< 1 x ØD1

Cutting conditions based on oil lubrication.

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

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

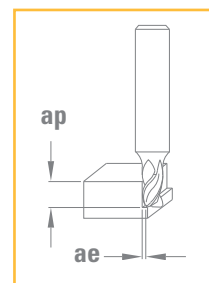
Feed per tooth

fz [mm]

$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.005 - 0.010	0.008 - 0.020	0.011 - 0.030	0.017 - 0.040	0.022 - 0.050	0.025 - 0.055	0.030 - 0.065	0.040 - 0.085
0.005 - 0.010	0.008 - 0.018	0.010 - 0.025	0.015 - 0.035	0.020 - 0.045	0.023 - 0.050	0.025 - 0.060	0.035 - 0.075
0.010 - 0.020	0.013 - 0.030	0.015 - 0.045	0.023 - 0.050	0.025 - 0.070	0.030 - 0.075	0.032 - 0.080	0.035 - 0.110
0.004 - 0.010	0.006 - 0.015	0.008 - 0.020	0.013 - 0.030	0.018 - 0.035	0.020 - 0.040	0.025 - 0.050	0.030 - 0.060
0.005 - 0.010	0.008 - 0.018	0.010 - 0.025	0.015 - 0.035	0.020 - 0.045	0.023 - 0.050	0.025 - 0.060	0.035 - 0.075
0.004 - 0.010	0.006 - 0.015	0.008 - 0.020	0.013 - 0.030	0.018 - 0.035	0.020 - 0.040	0.025 - 0.050	0.030 - 0.060
0.010 - 0.020	0.013 - 0.030	0.015 - 0.045	0.023 - 0.050	0.025 - 0.070	0.030 - 0.075	0.032 - 0.080	0.035 - 0.110
0.008 - 0.015	0.011 - 0.025	0.013 - 0.040	0.019 - 0.045	0.021 - 0.060	0.026 - 0.065	0.027 - 0.070	0.030 - 0.095
0.008 - 0.015	0.011 - 0.025	0.013 - 0.040	0.019 - 0.045	0.021 - 0.060	0.026 - 0.065	0.027 - 0.070	0.030 - 0.095
0.001 - 0.005	0.003 - 0.008	0.004 - 0.010	0.005 - 0.015	0.008 - 0.018	0.010 - 0.020	0.010 - 0.025	0.015 - 0.030
0.005 - 0.010	0.008 - 0.020	0.011 - 0.030	0.017 - 0.040	0.022 - 0.050	0.025 - 0.055	0.030 - 0.065	0.040 - 0.085



CUTTING CONDITIONS - ROUTING



Materials to be machined

			CUTINOX		ap	ae
			Vc [m/min]		[mm]	[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	160	200	< 2 x ØD1	< 0.4 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	130	170	< 2 x ØD1	< 0.3 x ØD1
P	Lead alloyed cutting steel		160	200	< 2 x ØD1	< 0.4 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²	70	100	< 2 x ØD1	< 0.3 x ØD1
M	Stainless steel	400 – 700 N/mm ²	80	110	< 2 x ØD1	< 0.3 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²	70	100	< 2 x ØD1	< 0.3 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	160	200	< 2 x ØD1	< 0.4 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	130	170	< 2 x ØD1	< 0.4 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		110	150	< 2 x ØD1	< 0.3 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	50	< 2 x ØD1	< 0.2 x ØD1
S	Titanium, titanium alloys		40	70	< 2 x ØD1	< 0.3 x ØD1

Cutting conditions based on oil lubrication.

If ae < 0.1 x D, increase Vc and fz from 25%.



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

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

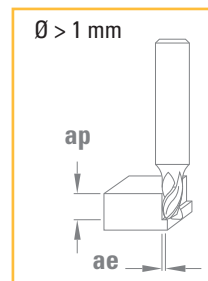
Feed per tooth

f_z [mm]

$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.015 - 0.030	0.019 - 0.040	0.025 - 0.060	0.035 - 0.085	0.045 - 0.100	0.050 - 0.110	0.055 - 0.135	0.075 - 0.160
0.011 - 0.025	0.015 - 0.035	0.020 - 0.055	0.030 - 0.075	0.040 - 0.090	0.045 - 0.100	0.050 - 0.120	0.068 - 0.144
0.021 - 0.045	0.025 - 0.055	0.030 - 0.085	0.045 - 0.115	0.060 - 0.135	0.070 - 0.150	0.075 - 0.180	0.100 - 0.220
0.008 - 0.020	0.012 - 0.030	0.015 - 0.045	0.025 - 0.060	0.035 - 0.075	0.040 - 0.080	0.045 - 0.095	0.055 - 0.115
0.011 - 0.025	0.015 - 0.035	0.020 - 0.055	0.030 - 0.075	0.040 - 0.090	0.045 - 0.100	0.050 - 0.120	0.065 - 0.145
0.008 - 0.020	0.012 - 0.030	0.015 - 0.045	0.025 - 0.060	0.035 - 0.075	0.040 - 0.080	0.045 - 0.095	0.055 - 0.115
0.021 - 0.045	0.025 - 0.055	0.030 - 0.085	0.045 - 0.115	0.060 - 0.135	0.070 - 0.150	0.075 - 0.180	0.100 - 0.220
0.017 - 0.037	0.021 - 0.047	0.026 - 0.072	0.038 - 0.098	0.051 - 0.115	0.060 - 0.128	0.064 - 0.153	0.085 - 0.187
0.017 - 0.037	0.021 - 0.047	0.026 - 0.072	0.038 - 0.098	0.051 - 0.115	0.060 - 0.128	0.064 - 0.153	0.085 - 0.187
0.003 - 0.007	0.006 - 0.015	0.008 - 0.020	0.010 - 0.030	0.015 - 0.035	0.020 - 0.040	0.023 - 0.050	0.028 - 0.060
0.013 - 0.030	0.017 - 0.040	0.025 - 0.060	0.035 - 0.085	0.045 - 0.100	0.050 - 0.110	0.055 - 0.135	0.075 - 0.160



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		TiAlN		DIAMANT	ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]			
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110		< 1 x ØD1	< 0.3 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	90		< 1 x ØD1	< 0.2 x ØD1
P	Lead alloyed cutting steel		70	100				< 1.5 x ØD1	< 0.3 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			40	55		< 1 x ØD1	< 0.2 x ØD1
M	Stainless steel	400 – 700 N/mm ²			70	90		< 1 x ØD1	< 0.3 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	55		< 1 x ØD1	< 0.2 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	90	110		< 1 x ØD1	< 0.3 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	70	90		< 1 x ØD1	< 0.3 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	90	110		< 1 x ØD1	< 0.3 x ØD1
S	Titanium, titanium alloys		30	45				< 1 x ØD1	< 0.3 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160				< 1.5 x ØD1	< 0.3 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze (CuAlFe) (Ampco)		120	140	170	190		< 1 x ØD1	< 0.2 x ØD1
N	Aluminium alloys	Si < 8%	180	220	230	270		< 1.5 x ØD1	< 0.3 x ØD1
N	Cast aluminium	Si > 8%	140	160	210	230		< 1.5 x ØD1	< 0.3 x ØD1
N	Graphite				200	300		< 1.5 x ØD1	< 0.2 x ØD1
N	Plastic		240	260	300	340	< 1.5 x ØD1	< 0.3 x ØD1	0.006 - 0.015
N	Gold, silver		140	160	200	220	< 1.5 x ØD1	< 0.3 x ØD1	0.006 - 0.015

D₁ ≤ 0.1 mm ⇒ (ap & ae) -95 %

D₁ ≤ 0.2 mm ⇒ (ap & ae) -85 %

D₁ ≤ 0.3 mm ⇒ (ap & ae) -70 %

D₁ ≤ 0.4 mm ⇒ (ap & ae) -50 %

D₁ ≤ 0.5 mm ⇒ (ap & ae) -25 %



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

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

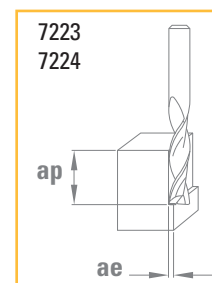
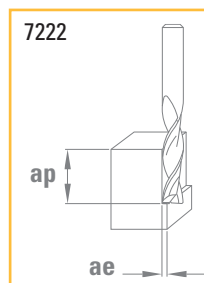
Feed per tooth

f_z [mm]

$\emptyset D_1$ 0.40 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.10	0.06 - 0.11	0.07 - 0.14	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.07	0.06 - 0.08	0.07 - 0.10	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.13	0.06 - 0.14	0.07 - 0.15	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.13	0.06 - 0.14	0.07 - 0.15	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.13	0.06 - 0.14	0.07 - 0.15	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.13	0.06 - 0.14	0.07 - 0.15	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.13	0.06 - 0.14	0.07 - 0.15	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.07	0.06 - 0.08	0.07 - 0.10	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.006 - 0.015	0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20	
0.012 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20		
0.005 - 0.02	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.12	0.05 - 0.14	0.07 - 0.16	0.08 - 0.20		



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		TiAlN		ap [mm]		ae [mm]	
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	ap [mm]	ae [mm]	ap [mm]	ae [mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	45	50	50	60	3 x ØD1	< 0.3 x ØD1	3 x ØD1	< 0.2 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			35	45	3 x ØD1	< 0.2 x ØD1	3 x ØD1	< 0.1 x ØD1
P	Lead alloyed cutting steel		45	50			3 x ØD1	< 0.3 x ØD1	3 x ØD1	< 0.2 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			30	45	3 x ØD1	< 0.15 x ØD1	3 x ØD1	< 0.07 x ØD1
M	Stainless steel	400 – 700 N/mm ²			35	45	3 x ØD1	< 0.2 x ØD1	3 x ØD1	< 0.1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			30	45	3 x ØD1	< 0.3 x ØD1	3 x ØD1	< 0.07 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	25	35	35	45	3 x ØD1	< 0.15 x ØD1	3 x ØD1	< 0.2 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	25	35	35	45	3 x ØD1	< 0.3 x ØD1	3 x ØD1	< 0.07 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		25	35	35	45	3 x ØD1	< 0.1 x ØD1	3 x ØD1	< 0.2 x ØD1
S	Titanium, titanium alloys		15	25			3 x ØD1	< 0.15 x ØD1	3 x ØD1	< 0.03 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		80	100			3 x ØD1	< 0.3 x ØD1	3 x ØD1	< 0.2 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze (CuAlFe) (Ampco)		60	80	80	100	3 x ØD1	< 0.3 x ØD1	3 x ØD1	< 0.2 x ØD1
N	Aluminium alloys	Si < 8%	80	110	100	130	3 x ØD1	< 0.4 x ØD1	3 x ØD1	< 0.3 x ØD1
N	Cast aluminium	Si > 8%	80	100	100	120	3 x ØD1	< 0.4 x ØD1	3 x ØD1	< 0.3 x ØD1
N	Plastic		90	110	110	130	3 x ØD1	< 0.4 x ØD1	3 x ØD1	< 0.3 x ØD1
N	Gold, silver		80	100	100	120	3 x ØD1	< 0.4 x ØD1	3 x ØD1	< 0.3 x ØD1

DIXI 7222 - 7223 - 7224 DIAMANT

CUTTING CONDITIONS

Materials to be machined

		DIAMANT		ap [mm]		ae [mm]	
		Vc [m/min]	Vc [m/min]	ap [mm]	ae [mm]	ap [mm]	ae [mm]
N	Graphite	200	300			3 x ØD1	< 0.30 x ØD1



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

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

Feed per tooth

fz [mm]

$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 7.00	$\emptyset D_1$ 7.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.006 - 0.01	0.008 - 0.02	0.010 - 0.02	0.012 - 0.02	0.014 - 0.03	0.018 - 0.04	0.02 - 0.04	0.02 - 0.05	0.03 - 0.06	0.03 - 0.07
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.008 - 0.02	0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.023 - 0.05	0.03 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.006 - 0.01	0.008 - 0.02	0.010 - 0.02	0.012 - 0.02	0.014 - 0.03	0.018 - 0.04	0.02 - 0.04	0.02 - 0.05	0.03 - 0.06	0.03 - 0.07
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.006 - 0.01	0.008 - 0.02	0.010 - 0.02	0.012 - 0.02	0.014 - 0.03	0.018 - 0.04	0.02 - 0.04	0.02 - 0.05	0.03 - 0.06	0.03 - 0.07
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.008 - 0.02	0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.023 - 0.05	0.03 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.005 - 0.01	0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.014 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.008 - 0.02	0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.023 - 0.05	0.03 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.008 - 0.02	0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.023 - 0.05	0.03 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.011 - 0.03	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	0.06 - 0.15
0.008 - 0.02	0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.023 - 0.05	0.03 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10

The plunging feed (Vfp) of an end mill Z = 2 (drilling) must be reduced bny 40 to 80 % depending on the material to be machined.

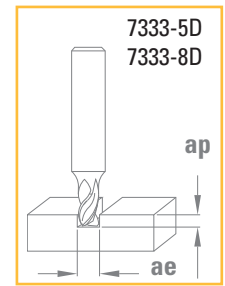
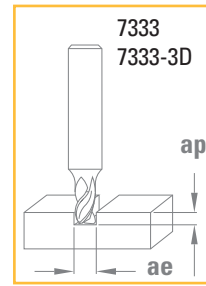
Feed per tooth

fz [mm]

$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 7.00	$\emptyset D_1$ 7.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.011 - 0.03	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	0.06 - 0.15



CUTTING CONDITIONS



Materials to be machined

			CARBIDE		CUTINOX		ap [mm]		ae [mm]	
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	ap [mm]	ae [mm]	ap [mm]	ae [mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	50	80	80	120	1 x ØD1	< 1 x ØD1	0.8 x ØD1	< 1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	30	60	70	100	1 x ØD1	< 1 x ØD1	0.6 x ØD1	< 1 x ØD1
P	Lead alloyed cutting steel		80	120	100	180	1 x ØD1	< 1 x ØD1	1 x ØD1	< 1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²	30	50	40	70	0.8 x ØD1	< 1 x ØD1	0.5 x ØD1	< 1 x ØD1
M	Stainless steel	400 – 700 N/mm ²	40	60	60	90	0.8 x ØD1	< 1 x ØD1	0.5 x ØD1	< 1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²	20	40	30	60	0.7 x ØD1	< 1 x ØD1	0.4 x ØD1	< 1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	100	150	150	200	1 x ØD1	< 1 x ØD1	1 x ØD1	< 1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	50	80	60	100	1 x ØD1	< 1 x ØD1	0.8 x ØD1	< 1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		50	80	60	90	1 x ØD1	< 1 x ØD1	0.8 x ØD1	< 1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	10	20	20	40	0.4 x ØD1	< 1 x ØD1	0.2 x ØD1	< 1 x ØD1
S	Titanium, titanium alloys		30	60	40	70	1 x ØD1	< 1 x ØD1	0.8 x ØD1	< 1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		150	250	100	250	1 x ØD1	< 1 x ØD1	1 x ØD1	< 1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	80	150	80	150	1 x ØD1	< 1 x ØD1	0.8 x ØD1	< 1 x ØD1
N	Aluminium alloys	Si < 8%	150	300	150	300	1 x ØD1	< 1 x ØD1	1 x ØD1	< 1 x ØD1
N	Cast aluminium	Si > 8%	100	150	150	250	1 x ØD1	< 1 x ØD1	3 x ØD1	< 1 x ØD1
N	Plastic		100	150	100	150	1 x ØD1	< 1 x ØD1	3 x ØD1	< 1 x ØD1
N	Gold, silver		100	150	100	150	1 x ØD1	< 1 x ØD1	1 x ØD1	< 1 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$

$D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$

$D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$

$D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$

$D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$

n and Vf are indicative and shall be adjusted according to L₂



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

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

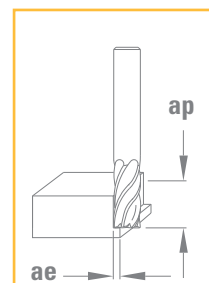
Feed per tooth

fz [mm]

$\emptyset D_1$ 0.30 - 0.50	$\emptyset D_1$ 0.60 - 0.90	$\emptyset D_1$ 1.00 - 2.00	$\emptyset D_1$ 2.00 - 4.00	$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	
0.0024 - 0.008	0.0048 - 0.014	0.008 - 0.028	0.016 - 0.052	0.031 - 0.07	0.05 - 0.09	0.06 - 0.10	
0.0022 - 0.007	0.0043 - 0.012	0.007 - 0.025	0.014 - 0.047	0.028 - 0.06	0.04 - 0.08	0.04 - 0.09	
0.0029 - 0.009	0.0058 - 0.016	0.010 - 0.034	0.019 - 0.062	0.037 - 0.09	0.06 - 0.11	0.07 - 0.12	
0.0019 - 0.006	0.0038 - 0.011	0.006 - 0.022	0.013 - 0.042	0.025 - 0.06	0.04 - 0.07	0.05 - 0.08	
0.0019 - 0.006	0.0038 - 0.011	0.006 - 0.022	0.013 - 0.042	0.025 - 0.06	0.04 - 0.07	0.05 - 0.08	
0.0017 - 0.005	0.0034 - 0.009	0.006 - 0.020	0.011 - 0.036	0.022 - 0.05	0.03 - 0.06	0.04 - 0.07	
0.003 - 0.009	0.006 - 0.017	0.010 - 0.035	0.02 - 0.065	0.039 - 0.09	0.06 - 0.11	0.08 - 0.13	
0.0024 - 0.008	0.0048 - 0.014	0.008 - 0.028	0.016 - 0.052	0.031 - 0.07	0.05 - 0.09	0.06 - 0.10	
0.0024 - 0.008	0.0048 - 0.014	0.008 - 0.028	0.016 - 0.052	0.031 - 0.07	0.05 - 0.09	0.06 - 0.10	
0.0012 - 0.004	0.0024 - 0.007	0.004 - 0.014	0.008 - 0.026	0.016 - 0.04	0.02 - 0.04	0.03 - 0.05	
0.0024 - 0.008	0.0048 - 0.014	0.008 - 0.028	0.016 - 0.052	0.031 - 0.07	0.05 - 0.09	0.06 - 0.10	
0.003 - 0.009	0.006 - 0.017	0.010 - 0.035	0.02 - 0.065	0.039 - 0.09	0.06 - 0.11	0.08 - 0.13	
0.0034 - 0.011	0.0067 - 0.019	0.011 - 0.039	0.022 - 0.073	0.044 - 0.10	0.06 - 0.12	0.09 - 0.14	
0.0034 - 0.011	0.0067 - 0.019	0.011 - 0.039	0.022 - 0.073	0.044 - 0.10	0.06 - 0.12	0.09 - 0.14	
0.0031 - 0.010	0.0062 - 0.018	0.010 - 0.036	0.021 - 0.068	0.041 - 0.09	0.04 - 0.11	0.08 - 0.13	
0.0034 - 0.011	0.0067 - 0.019	0.011 - 0.039	0.022 - 0.073	0.044 - 0.10	0.06 - 0.12	0.09 - 0.14	
0.0031 - 0.010	0.0062 - 0.018	0.010 - 0.036	0.021 - 0.068	0.041 - 0.09	0.04 - 0.11	0.08 - 0.13	



CUTTING CONDITIONS



Materials to be machined			CARBIDE		TiAlN		DLC		ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]		
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	90	110	110	130			1.5 x ØD1	< 0.1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			80	100			1.5 x ØD1	< 0.1 x ØD1
P	Lead alloyed cutting steel		80	110					1.5 x ØD1	< 0.3 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			60	80			1.5 x ØD1	< 0.05 x ØD1
M	Stainless steel	400 – 700 N/mm ²			80	100			1.5 x ØD1	< 0.05 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			60	80			1.5 x ØD1	< 0.05 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	80	110	110	140			1.5 x ØD1	< 0.2 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	50	70	80	100			1.5 x ØD1	< 0.05 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		80	110	110	130			1.5 x ØD1	< 0.1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			35	50			1.5 x ØD1	< 0.05 x ØD1
S	Titanium, titanium alloys		40	55			50	80	1.5 x ØD1	< 0.1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		160	200			200	300	1.5 x ØD1	< 0.3 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	140	160	170	220	200	270	1.5 x ØD1	< 0.1 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$

$D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$

$D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$

$D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$

$D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$

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

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

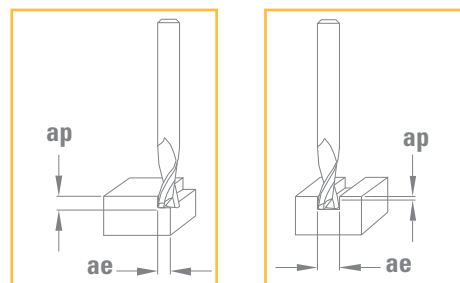
Feed per tooth

f_z [mm]

$\emptyset D_1$ 0.35 - 1.90 (Z = 3)	$\emptyset D_1$ 2.00 - 3.00 (Z = 5)	$\emptyset D_1$ 3.00 - 5.00 (Z = 5)	$\emptyset D_1$ 5.00 - 8.00 (Z = 5)	$\emptyset D_1$ 8.00 - 10.00 (Z = 6)	$\emptyset D_1$ 10.00 - 14.00 (Z = 6)	$\emptyset D_1$ 14.00 - 16.00 (Z = 6)	$\emptyset D_1$ 16.00 - 20.00 (Z = 6)
0.0021 - 0.03	0.012 - 0.05	0.02 - 0.08	0.03 - 0.12	0.04 - 0.13	0.05 - 0.17	0.07 - 0.18	0.07 - 0.20
0.0019 - 0.03	0.011 - 0.04	0.02 - 0.07	0.02 - 0.11	0.04 - 0.12	0.05 - 0.15	0.06 - 0.16	0.06 - 0.18
0.0025 - 0.03	0.014 - 0.05	0.02 - 0.09	0.03 - 0.14	0.05 - 0.16	0.06 - 0.20	0.08 - 0.21	0.09 - 0.24
0.0017 - 0.02	0.010 - 0.04	0.01 - 0.06	0.02 - 0.10	0.03 - 0.10	0.04 - 0.13	0.05 - 0.14	0.06 - 0.16
0.0017 - 0.02	0.010 - 0.04	0.01 - 0.06	0.02 - 0.10	0.03 - 0.10	0.04 - 0.13	0.05 - 0.14	0.06 - 0.16
0.0015 - 0.02	0.008 - 0.03	0.01 - 0.05	0.02 - 0.08	0.03 - 0.09	0.04 - 0.12	0.05 - 0.12	0.05 - 0.14
0.0026 - 0.04	0.015 - 0.06	0.02 - 0.09	0.03 - 0.15	0.05 - 0.16	0.06 - 0.21	0.08 - 0.22	0.09 - 0.25
0.0021 - 0.03	0.012 - 0.05	0.02 - 0.08	0.03 - 0.12	0.04 - 0.13	0.05 - 0.17	0.07 - 0.18	0.07 - 0.20
0.0021 - 0.03	0.012 - 0.05	0.02 - 0.08	0.03 - 0.12	0.04 - 0.13	0.05 - 0.17	0.07 - 0.18	0.07 - 0.20
0.0011 - 0.01	0.006 - 0.02	0.01 - 0.04	0.01 - 0.06	0.02 - 0.07	0.03 - 0.08	0.03 - 0.09	0.04 - 0.10
0.0021 - 0.03	0.012 - 0.05	0.02 - 0.08	0.03 - 0.12	0.04 - 0.13	0.05 - 0.17	0.07 - 0.18	0.07 - 0.20
0.0026 - 0.04	0.015 - 0.06	0.02 - 0.09	0.03 - 0.15	0.05 - 0.16	0.06 - 0.21	0.08 - 0.22	0.09 - 0.25
0.0029 - 0.04	0.017 - 0.06	0.03 - 0.11	0.04 - 0.17	0.06 - 0.18	0.07 - 0.24	0.09 - 0.25	0.10 - 0.28



CUTTING CONDITIONS

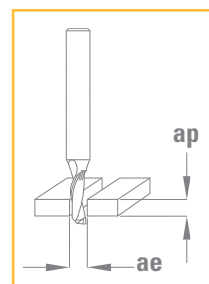


Materials to be machined

			CARBIDE		CUTINOX		ap	ae	ap	ae
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]	[mm]	[mm]	[mm]	[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	100	120	1.5 x ØD1	0.5 x ØD1	< 1.3 x ØD1	1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			80	100	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
P	Lead alloyed cutting steel		70	100			1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			50	70	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
M	Stainless steel	400 – 700 N/mm ²			80	100	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	100	120	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	80	100	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	100	120	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
S	Titanium, titanium alloys		30	45			1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		160	180	220	240	1 x ØD1	1 x ØD1	< 1.5 x ØD1	0.5 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze (CuAlFe)		100	130	120	150	1 x ØD1	1 x ØD1	< 1.5 x ØD1	0.5 x ØD1
N	Aluminium alloy	Si < 8%	130	250	200	300	1.5 x ØD1	0.5 x ØD1	< 1 x ØD1	1 x ØD1
N	Gold, silver		140	160	200	220	< 1 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1

DIXI 7301 - 7302 - 7303 - 7311

CUTTING CONDITIONS



Materials to be machined

		CARBIDE		ap	ae
		Vc [m/min]	Vc [m/min]	[mm]	[mm]
N	Plastic	130	200	< 1.5 x ØD1	1 x ØD1

The plunging feed (Vfp) of an end mill Z = 1 (drilling) must be reduced by 40 to 80 % depending on the material to be machined



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

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

Feed per tooth

f_z [mm]

$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 7.00	$\emptyset D_1$ 7.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.02 - 0.03	0.025 - 0.04	0.028 - 0.045	0.032 - 0.05	0.035 - 0.06	0.04 - 0.08	0.06 - 0.10	
0.03 - 0.04	0.04 - 0.06	0.05 - 0.08	0.06 - 0.09	0.07 - 0.1	0.08 - 0.11	0.09 - 0.12	
0.01 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.020 - 0.05	0.023 - 0.05	0.025 - 0.06	

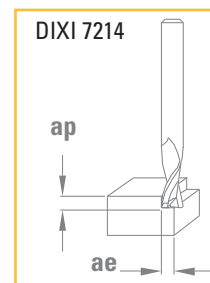
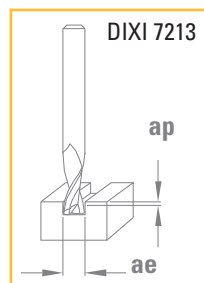
Feed per tooth

f_z [mm]

$\emptyset D_1$ 2.00 - 2.50	$\emptyset D_1$ 2.50 - 3.00	$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	
0.020 - 0.05	0.025 - 0.06	0.03 - 0.08	0.04 - 0.10	0.05 - 0.12	0.06 - 0.16	0.08 - 0.20	0.10 - 0.28	



CUTTING CONDITIONS

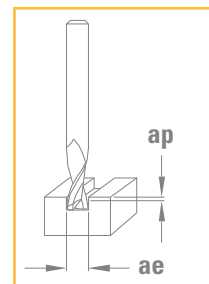


Materials to be machined

			CARBIDE		TiAlN		ap [mm]	ae [mm]	ap [mm]	ae [mm]
			Vc [m/min]		Vc [m/min]					
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110	< 1 x ØD1	1 x ØD1	< 1 x ØD1	< 0.5 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	90	< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
P	Lead alloyed cutting steel		70	100			< 1 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			40	60	< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
M	Stainless steel	400 – 700 N/mm ²			80	100	< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	70	100	90	110	< 1 x ØD1	1 x ØD1	< 1 x ØD1	< 0.5 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	40	70	70	90	< 0.4 x ØD1	1 x ØD1	< 1 x ØD1	< 0.4 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		70	100	90	110	< 0.4 x ØD1	1 x ØD1	< 1 x ØD1	< 0.4 x ØD1
S	Titanium, titanium alloys		30	45			< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160			< 2 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze (CuAlFe) (Ampco)		120	140	170	190	< 1 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
N	Aluminium alloys	Si < 8%	180	260	230	340	< 2 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
N	Cast aluminium	Si > 8%	140	160	210	230	< 2 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
N	Gold, silver		140	160	200	220	< 1 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1

DIXI 7060 - 7063 - 7232

CUTTING CONDITIONS



Materials to be machined

			CARBIDE		ap [mm]	ae [mm]
			Vc [m/min]			
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	100	150	< 1 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		140	160	< 1 x ØD1	1 x ØD1
N	Plastic		140	160	< 0.9 x ØD1	1 x ØD1
N	Gold, silver		240	260	< 1.2 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	240	300	< 1.2 x ØD1	1 x ØD1



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

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

Feed per tooth

fz [mm]

$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 7.00	$\emptyset D_1$ 7.00 - 8.00	$\emptyset D_1$ 8.00 - 9.00	$\emptyset D_1$ 9.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 14.00	$\emptyset D_1$ 14.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
0.008 - 0.02	0.010 - 0.02	0.012 - 0.02	0.014 - 0.03	0.016 - 0.03	0.018 - 0.04	0.020 - 0.04	0.02 - 0.05	0.03 - 0.06	0.03 - 0.07
0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.012 - 0.02	0.014 - 0.03	0.015 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.020 - 0.05	0.023 - 0.05	0.025 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.012 - 0.02	0.014 - 0.03	0.015 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.012 - 0.02	0.014 - 0.03	0.015 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.008 - 0.02	0.010 - 0.02	0.012 - 0.02	0.014 - 0.03	0.016 - 0.03	0.018 - 0.04	0.020 - 0.04	0.02 - 0.05	0.03 - 0.06	0.03 - 0.07
0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.012 - 0.02	0.014 - 0.03	0.015 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.008 - 0.02	0.010 - 0.02	0.012 - 0.02	0.014 - 0.03	0.016 - 0.03	0.018 - 0.04	0.020 - 0.04	0.02 - 0.05	0.03 - 0.06	0.03 - 0.07
0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.012 - 0.02	0.014 - 0.03	0.015 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.020 - 0.05	0.023 - 0.05	0.025 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.006 - 0.01	0.008 - 0.02	0.009 - 0.02	0.011 - 0.02	0.012 - 0.02	0.014 - 0.03	0.015 - 0.03	0.02 - 0.04	0.02 - 0.04	0.02 - 0.05
0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.020 - 0.05	0.023 - 0.05	0.025 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.020 - 0.05	0.023 - 0.05	0.025 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10
0.010 - 0.03	0.013 - 0.03	0.015 - 0.04	0.018 - 0.04	0.020 - 0.05	0.023 - 0.05	0.025 - 0.06	0.03 - 0.07	0.04 - 0.08	0.04 - 0.10

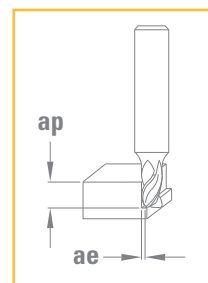
Feed per tooth

fz [mm]

$\emptyset D_1$ 0.40 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.11
0.006 - 0.015	0.012 - 0.020	0.016 - 0.04	0.02 - 0.06	0.03 - 0.09	0.04 - 0.1



CUTTING CONDITIONS - ROUTING



Materials to be machined			CARBIDE		C-TOP		ap [mm]	ae [mm]
			Vc [m/min]		Vc [m/min]			
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²			100	200	<1.5 x ØD1	<0.4 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			80	170	<1.5 x ØD1	<0.3 x ØD1
P	Lead alloyed cutting steel				120	200	<1.5 x ØD1	<0.4 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			70	100	<1.5 x ØD1	<0.3 x ØD1
M	Stainless steel	400 – 700 N/mm ²			80	110	<1.5 x ØD1	<0.3 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			50	80	<1.5 x ØD1	<0.3 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	120	150	160	200	<1.5 x ØD1	<0.4 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	100	130	130	170	<1.5 x ØD1	<0.3 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		80	110	110	150	<1.5 x ØD1	<0.3 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	45	30	60	<1.5 x ØD1	<0.15 x ØD1
S	Titanium, titanium alloys		45	75	50	80	<1.5 x ØD1	<0.3 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		90	130	120	200	<1.5 x ØD1	<0.4 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	70	120	80	140	<1.5 x ØD1	<0.4 x ØD1
N	Gold, silver		140	190	150	200	<1.5 x ØD1	<0.4 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap} \ \& \ \text{ae}) -95 \%$

$D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap} \ \& \ \text{ae}) -85 \%$

$D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap} \ \& \ \text{ae}) -70 \%$

$D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap} \ \& \ \text{ae}) -50 \%$

$D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap} \ \& \ \text{ae}) -25 \%$

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

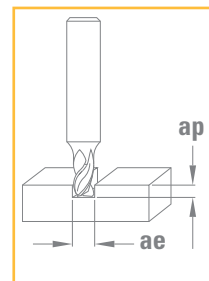
$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times Z$$

Feed per tooth **fz [mm]**

$\emptyset D_1$ 0.10 - 0.40	$\emptyset D_1$ 0.40 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 6.00	$\emptyset D_1$ 6.00 - 12.00
0.0013 - 0.0075	0.005 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195
0.0011 - 0.0056	0.004 - 0.017	0.009 - 0.025	0.012 - 0.046	0.023 - 0.092	0.043 - 0.172
0.0015 - 0.0075	0.006 - 0.023	0.012 - 0.034	0.017 - 0.063	0.032 - 0.126	0.059 - 0.234
0.0010 - 0.0070	0.004 - 0.015	0.008 - 0.023	0.011 - 0.042	0.021 - 0.084	0.039 - 0.156
0.0010 - 0.0060	0.004 - 0.015	0.008 - 0.023	0.011 - 0.042	0.021 - 0.084	0.039 - 0.156
0.0008 - 0.0045	0.003 - 0.011	0.006 - 0.017	0.008 - 0.032	0.016 - 0.063	0.029 - 0.117
0.0015 - 0.0075	0.006 - 0.023	0.012 - 0.034	0.017 - 0.063	0.032 - 0.16	0.059 - 0.234
0.0011 - 0.0056	0.004 - 0.017	0.009 - 0.025	0.012 - 0.046	0.023 - 0.092	0.043 - 0.172
0.0011 - 0.0056	0.004 - 0.017	0.009 - 0.025	0.012 - 0.046	0.023 - 0.092	0.043 - 0.172
0.0005 - 0.0030	0.002 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.020 - 0.078
0.0013 - 0.0075	0.005 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195
0.0020 - 0.0120	0.008 - 0.030	0.016 - 0.045	0.023 - 0.084	0.042 - 0.168	0.078 - 0.312
0.0013 - 0.0075	0.005 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195
0.0013 - 0.0075	0.005 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195



CUTTING CONDITIONS - SLOTTING



Materials to be machined

			CARBIDE		C-TOP		ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]		
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²			75	150	<1.5 x ØD1	<1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			60	130	<1.2 x ØD1	<1 x ØD1
P	Lead alloyed cutting steel				90	150	<1.5 x ØD1	<1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			50	75	<1 x ØD1	<1 x ØD1
M	Stainless steel	400 – 700 N/mm ²			60	80	<1 x ØD1	<1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	60	<0.8 x ØD1	<1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	90	160	120	200	<1.5 x ØD1	<1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	75	100	90	130	<1 x ØD1	<1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		60	80	80	110	<1 x ØD1	<1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	30	25	45	<0.2 x ØD1	<1 x ØD1
S	Titanium, titanium alloys		35	60	35	60	<1 x ØD1	<1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		75	150	100	170	<1.5 x ØD1	<1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	50	100	60	110	<1 x ØD1	<1 x ØD1
N	Gold, silver		100	150	110	150	<1 x ØD1	<1 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$

$D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$

$D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$

$D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$

$D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$

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

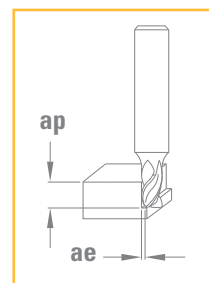
$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times Z$$

Feed per tooth **fz [mm]**

$\emptyset D_1$ 0.10 - 0.40	$\emptyset D_1$ 0.40 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 6.00	$\emptyset D_1$ 6.00 - 12.00	
0.0006 - 0.0038	0.0025 - 0.009	0.005 - 0.014	0.007 - 0.026	0.013 - 0.053	0.013 - 0.088	
0.0006 - 0.0028	0.0022 - 0.008	0.004 - 0.012	0.006 - 0.023	0.012 - 0.046	0.011 - 0.077	
0.0008 - 0.0038	0.0030 - 0.011	0.006 - 0.017	0.008 - 0.032	0.016 - 0.063	0.015 - 0.105	
0.0005 - 0.0035	0.0020 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.010 - 0.070	
0.0005 - 0.0030	0.0020 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.010 - 0.070	
0.0004 - 0.0023	0.0015 - 0.006	0.003 - 0.008	0.004 - 0.016	0.008 - 0.032	0.008 - 0.053	
0.0008 - 0.0038	0.0030 - 0.011	0.006 - 0.017	0.008 - 0.032	0.016 - 0.063	0.015 - 0.105	
0.0006 - 0.0028	0.0022 - 0.008	0.004 - 0.012	0.006 - 0.023	0.012 - 0.046	0.011 - 0.077	
0.0006 - 0.0028	0.0022 - 0.008	0.004 - 0.012	0.006 - 0.023	0.012 - 0.046	0.011 - 0.077	
0.0003 - 0.0015	0.0010 - 0.004	0.002 - 0.006	0.003 - 0.011	0.005 - 0.021	0.005 - 0.035	
0.0006 - 0.0038	0.0025 - 0.009	0.005 - 0.014	0.007 - 0.026	0.013 - 0.053	0.013 - 0.088	
0.0010 - 0.0060	0.004 - 0.015	0.008 - 0.023	0.011 - 0.042	0.021 - 0.084	0.020 - 0.140	
0.0006 - 0.0038	0.0025 - 0.009	0.005 - 0.014	0.007 - 0.026	0.013 - 0.053	0.013 - 0.088	
0.0006 - 0.0038	0.0025 - 0.009	0.005 - 0.014	0.007 - 0.026	0.013 - 0.053	0.013 - 0.088	



CUTTING CONDITIONS - ROUTING



Materials to be machined

			CARBIDE		C-TOP		ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]		
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²			100	200	<2 x ØD1	<0.4 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			80	170	<2 x ØD1	<0.3 x ØD1
P	Lead alloyed cutting steel				120	200	<2 x ØD1	<0.4 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			70	100	<2 x ØD1	<0.3 x ØD1
M	Stainless steel	400 – 700 N/mm ²			80	110	<2 x ØD1	<0.3 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			50	80	<2 x ØD1	<0.3 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	120	150	160	200	<2 x ØD1	<0.4 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	100	130	130	170	<2 x ØD1	<0.3 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		80	110	110	150	<2 x ØD1	<0.3 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	45	30	60	<2 x ØD1	<0.15 x ØD1
S	Titanium, titanium alloys		45	75	50	80	<2 x ØD1	<0.3 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		90	130	120	200	<2 x ØD1	<0.4 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	70	120	80	140	<2 x ØD1	<0.4 x ØD1
N	Gold, silver		140	190	150	200	<2 x ØD1	<0.4 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$

$D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$

$D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$

$D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$

$D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$

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

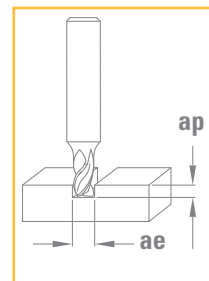
$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times Z$$

Feed per tooth **fz [mm]**

$\emptyset D_1$ 0.30 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 6.00	$\emptyset D_1$ 6.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.0030 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195	0.090 - 0.260
0.0033 - 0.017	0.009 - 0.025	0.012 - 0.046	0.023 - 0.092	0.043 - 0.172	0.079 - 0.229
0.0045 - 0.023	0.012 - 0.034	0.017 - 0.063	0.032 - 0.126	0.059 - 0.234	0.108 - 0.312
0.0030 - 0.015	0.008 - 0.023	0.011 - 0.042	0.021 - 0.084	0.039 - 0.156	0.072 - 0.208
0.0030 - 0.015	0.008 - 0.023	0.011 - 0.042	0.021 - 0.084	0.039 - 0.156	0.072 - 0.208
0.0023 - 0.011	0.006 - 0.017	0.008 - 0.032	0.016 - 0.063	0.030 - 0.117	0.048 - 0.156
0.0045 - 0.023	0.012 - 0.034	0.017 - 0.063	0.032 - 0.126	0.059 - 0.234	0.108 - 0.312
0.0033 - 0.017	0.009 - 0.025	0.012 - 0.046	0.023 - 0.092	0.043 - 0.172	0.079 - 0.229
0.0033 - 0.017	0.009 - 0.025	0.012 - 0.046	0.023 - 0.092	0.043 - 0.172	0.079 - 0.229
0.0015 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.020 - 0.078	0.036 - 0.104
0.0038 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195	0.090 - 0.260
0.0060 - 0.030	0.016 - 0.045	0.023 - 0.084	0.042 - 0.168	0.078 - 0.312	0.144 - 0.416
0.0038 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195	0.090 - 0.260
0.0038 - 0.019	0.010 - 0.028	0.014 - 0.053	0.026 - 0.105	0.049 - 0.195	0.090 - 0.260



CUTTING CONDITIONS - SLOTTING



Materials to be machined

			CARBIDE		C-TOP		ap [mm]	ae [mm]
			Vc [m/min]		Vc [m/min]			
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²			75	150	<2 x ØD1	<1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			60	130	<1.5 x ØD1	<1 x ØD1
P	Lead alloyed cutting steel				90	150	<2 x ØD1	<1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²			50	75	<1 x ØD1	<1 x ØD1
M	Stainless steel	400 – 700 N/mm ²			60	80	<1 x ØD1	<1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm ²			40	60	<0.8 x ØD1	<1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	90	160	120	200	<2 x ØD1	<1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	75	100	90	130	<1 x ØD1	<1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		60	80	80	110	<1 x ØD1	<1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	20	30	25	45	<0.2 x ØD1	<1 x ØD1
S	Titanium, titanium alloys		35	60	35	60	<1 x ØD1	<1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		75	150	100	170	<2 x ØD1	<1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	50	100	60	110	<1.5 x ØD1	<1 x ØD1
N	Gold, silver		100	150	110	150	<1 x ØD1	<1 x ØD1

$D_1 \leq 0.1 \text{ mm} \Rightarrow (\text{ap \& ae}) -95 \%$

$D_1 \leq 0.2 \text{ mm} \Rightarrow (\text{ap \& ae}) -85 \%$

$D_1 \leq 0.3 \text{ mm} \Rightarrow (\text{ap \& ae}) -70 \%$

$D_1 \leq 0.4 \text{ mm} \Rightarrow (\text{ap \& ae}) -50 \%$

$D_1 \leq 0.5 \text{ mm} \Rightarrow (\text{ap \& ae}) -25 \%$

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

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

Feed per tooth **fz [mm]**

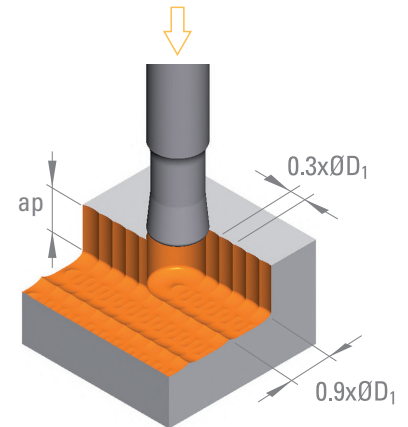
$\emptyset D_1$ 0.30 - 1.00	$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 6.00	$\emptyset D_1$ 6.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.0012 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.0426	0.020 - 0.078	0.036 - 0.104
0.0013 - 0.007	0.004 - 0.010	0.005 - 0.018	0.009 - 0.037	0.017 - 0.069	0.032 - 0.092
0.0018 - 0.009	0.005 - 0.014	0.007 - 0.025	0.013 - 0.050	0.023 - 0.094	0.043 - 0.125
0.0012 - 0.006	0.003 - 0.009	0.005 - 0.017	0.008 - 0.034	0.016 - 0.062	0.029 - 0.083
0.0012 - 0.006	0.003 - 0.009	0.005 - 0.017	0.008 - 0.034	0.016 - 0.062	0.029 - 0.083
0.0009 - 0.005	0.002 - 0.007	0.003 - 0.013	0.006 - 0.025	0.012 - 0.47	0.019 - 0.062
0.0018 - 0.009	0.005 - 0.014	0.007 - 0.025	0.013 - 0.050	0.023 - 0.094	0.043 - 0.125
0.0013 - 0.007	0.004 - 0.010	0.005 - 0.018	0.009 - 0.037	0.017 - 0.69	0.032 - 0.092
0.0013 - 0.007	0.004 - 0.010	0.005 - 0.018	0.009 - 0.037	0.017 - 0.69	0.032 - 0.092
0.0006 - 0.003	0.002 - 0.005	0.002 - 0.008	0.004 - 0.017	0.008 - 0.031	0.014 - 0.042
0.0015 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.020 - 0.078	0.036 - 0.104
0.0024 - 0.012	0.006 - 0.018	0.009 - 0.034	0.017 - 0.067	0.031 - 0.125	0.058 - 0.166
0.0015 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.020 - 0.078	0.036 - 0.104
0.0015 - 0.008	0.004 - 0.011	0.006 - 0.021	0.011 - 0.042	0.020 - 0.078	0.036 - 0.104



CUTTING CONDITIONS

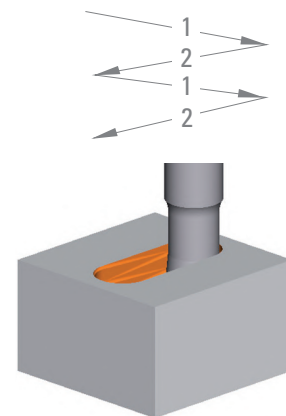
Plunge milling

Materials to be machined		XIDUR V _c [m/min]	a _p [mm]
P	Unalloyed steel / Low alloyed steel < 600 N/mm ²	175	<1xØD ₁
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm ²	140	<1xØD ₁
P	Lead alloyed cutting steel	175	<1xØD ₁
P	High alloyed steel 700 – 1500 N/mm ²	140	<1xØD ₁
H	Hardened steel >50HRC	50	<0.8xØD ₁
M	Stainless steel 400 – 700 N/mm ²	80	<0.8xØD ₁
M	DUPLEX stainless steel > 800 N/mm ²	60	<1xØD ₁
K	Grey cast iron / Nodular pearlitic iron < 250 HB	110	<1xØD ₁
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	70	<1xØD ₁
K	Nodular ferritic cast iron / Malleable cast iron	80	<1xØD ₁
S	Special alloys / Heat resistant stainless steel	80	<0.8xØD ₁
S	Titanium, titanium alloys	70	<0.8xØD ₁
N	Copper alloys - easy to machine (brass - bronze)	280	<1xØD ₁
N	Copper alloys - difficult to machine / Aluminium bronze	200	<1xØD ₁
N	Aluminium alloys Si < 8%	300	<1xØD ₁
N	Cast aluminium Si > 8%	250	<1xØD ₁
N	Gold, silver	200	<1xØD ₁

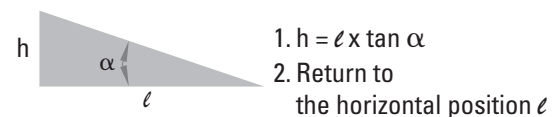


Ramping

Materials to be machined		XIDUR V _c [m/min]	α [°]
P	Unalloyed steel / Low alloyed steel < 600 N/mm ²	200	0.75
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm ²	150	0.75
P	Lead alloyed cutting steel	200	0.75
P	High alloyed steel 700 – 1500 N/mm ²	150	0.75
H	Hardened steel >50HRC	200	0.75
M	Stainless steel 400 – 700 N/mm ²	110	0.50
M	DUPLEX stainless steel > 800 N/mm ²	80	0.50
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	0.75
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	0.75
K	Nodular ferritic cast iron / Malleable cast iron	80	0.75
S	Special alloys / Heat resistant stainless steel	60	0.50
S	Titanium, titanium alloys	80	0.50
N	Copper alloys - easy to machine (brass - bronze)	330	1.20
N	Copper alloys - difficult to machine / Aluminium bronze	250	1.00
N	Aluminium alloys Si < 8%	350	1.20
N	Cast aluminium Si > 8%	300	1.00
N	Gold, silver	250	1.00



Ramping value calculation:



Feed per tooth **fz [mm]**

Ø D ₁ 0.50	Ø D ₁ 0.80	Ø D ₁ 1.00	Ø D ₁ 1.50	Ø D ₁ 2.00	Ø D ₁ 3.00	Ø D ₁ 4.00	Ø D ₁ 5.00	Ø D ₁ 6.00	Ø D ₁ 8.00	Ø D ₁ 10.00	Ø D ₁ 12.00
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.003	0.005	0.006	0.010	0.013	0.019	0.026	0.032	0.038	0.051	0.064	0.077
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.003	0.005	0.006	0.010	0.013	0.019	0.026	0.032	0.038	0.051	0.064	0.077
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.003	0.005	0.006	0.010	0.013	0.019	0.026	0.032	0.038	0.051	0.064	0.077
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.002	0.004	0.005	0.007	0.010	0.014	0.019	0.024	0.029	0.038	0.048	0.058
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.006	0.009	0.012	0.018	0.024	0.036	0.048	0.06	0.072	0.096	0.12	0.144
0.005	0.007	0.010	0.014	0.019	0.029	0.038	0.048	0.058	0.077	0.096	0.115
0.006	0.009	0.012	0.018	0.024	0.036	0.048	0.06	0.072	0.096	0.12	0.144
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.04	0.048	0.064	0.08	0.096
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.04	0.048	0.064	0.08	0.096

Feed per tooth **fz [mm]**

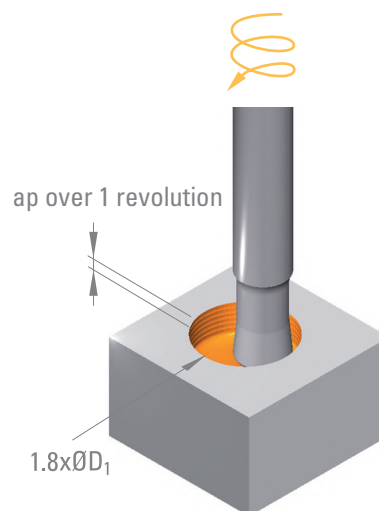
Ø D ₁ 0.50	Ø D ₁ 0.80	Ø D ₁ 1.00	Ø D ₁ 1.50	Ø D ₁ 2.00	Ø D ₁ 3.00	Ø D ₁ 4.00	Ø D ₁ 5.00	Ø D ₁ 6.00	Ø D ₁ 8.00	Ø D ₁ 10.00	Ø D ₁ 12.00
0.013	0.021	0.026	0.040	0.053	0.079	0.106	0.132	0.158	0.211	0.264	0.317
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.013	0.021	0.026	0.040	0.053	0.079	0.106	0.132	0.158	0.211	0.264	0.317
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.007	0.012	0.014	0.022	0.029	0.043	0.058	0.072	0.086	0.115	0.144	0.173
0.006	0.010	0.013	0.019	0.026	0.038	0.051	0.064	0.077	0.102	0.128	0.154
0.007	0.012	0.014	0.022	0.029	0.043	0.058	0.072	0.086	0.115	0.144	0.173
0.008	0.013	0.017	0.025	0.034	0.050	0.067	0.084	0.101	0.134	0.168	0.202
0.020	0.032	0.039	0.060	0.080	0.119	0.159	0.198	0.237	0.317	0.396	0.476
0.016	0.025	0.031	0.048	0.064	0.095	0.127	0.158	0.190	0.253	0.317	0.380
0.020	0.032	0.039	0.060	0.080	0.119	0.159	0.198	0.237	0.317	0.396	0.476
0.013	0.021	0.026	0.040	0.053	0.079	0.106	0.132	0.158	0.211	0.264	0.317
0.013	0.021	0.026	0.040	0.053	0.079	0.106	0.132	0.158	0.211	0.264	0.317



CUTTING CONDITIONS

Helical milling

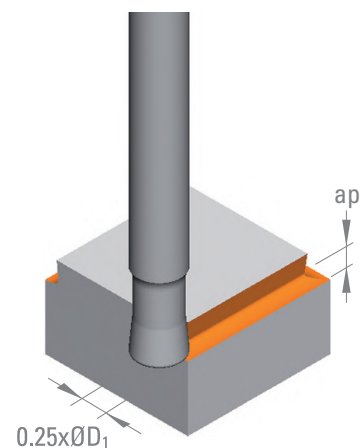
Materials to be machined		XIDUR Vc [m/min]	α [°]
P	Unalloyed steel / Low alloyed steel < 600 N/mm ²	250	0.75
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm ²	200	0.75
P	Lead alloyed cutting steel	250	0.75
P	High alloyed steel 700 – 1500 N/mm ²	200	0.75
H	Hardened steel >50HRC	200	0.75
M	Stainless steel 400 – 700 N/mm ²	150	0.50
M	DUPLEX stainless steel > 800 N/mm ²	110	0.50
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	0.75
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	0.75
K	Nodular ferritic cast iron / Malleable cast iron	80	0.75
S	Special alloys / Heat resistant stainless steel	80	0.50
S	Titanium, titanium alloys	100	0.50
N	Copper alloys - easy to machine (brass - bronze)	380	1.20
N	Copper alloys - difficult to machine / Aluminium bronze	300	1.00
N	Aluminium alloys Si < 8%	400	1.20
N	Cast aluminium Si > 8%	350	1.00
N	Gold, silver	300	1.00



Value calculation of helical pitch:
 $ap \text{ over 1 revolution} = \pi \times D_1 \times \tan \alpha$

Routing

Materials to be machined		XIDUR Vc [m/min]	ap [mm]
P	Unalloyed steel / Low alloyed steel < 600 N/mm ²	250	<0.5xØD ₁
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm ²	200	<0.5xØD ₁
P	Lead alloyed cutting steel	250	<0.5xØD ₁
P	High alloyed steel 700 – 1500 N/mm ²	200	<0.5xØD ₁
H	Hardened steel >50HRC	200	<0.4xØD ₁
M	Stainless steel 400 – 700 N/mm ²	150	<0.4xØD ₁
M	DUPLEX stainless steel > 800 N/mm ²	110	<0.4xØD ₁
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	<0.5xØD ₁
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	<0.5xØD ₁
K	Nodular ferritic cast iron / Malleable cast iron	80	<0.5xØD ₁
S	Special alloys / Heat resistant stainless steel	80	<0.4xØD ₁
S	Titanium, titanium alloys	100	<0.4xØD ₁
N	Copper alloys - easy to machine (brass - bronze)	350	<0.5xØD ₁
N	Copper alloys - difficult to machine / Aluminium bronze	300	<0.5xØD ₁
N	Aluminium alloys Si < 8%	400	<0.5xØD ₁
N	Cast aluminium Si > 8%	300	<0.5xØD ₁
N	Gold, silver	300	<0.5xØD ₁



Feed per tooth **fz [mm]**

Ø D ₁ 0.50	Ø D ₁ 0.80	Ø D ₁ 1.00	Ø D ₁ 1.50	Ø D ₁ 2.00	Ø D ₁ 3.00	Ø D ₁ 4.00	Ø D ₁ 5.00	Ø D ₁ 6.00	Ø D ₁ 8.00	Ø D ₁ 10.00	Ø D ₁ 12.00
0.018	0.028	0.035	0.053	0.070	0.106	0.141	0.176	0.211	0.282	0.352	0.422
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.018	0.028	0.035	0.053	0.070	0.106	0.141	0.176	0.211	0.282	0.352	0.422
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.005	0.008	0.010	0.014	0.019	0.029	0.038	0.048	0.058	0.077	0.096	0.115
0.013	0.020	0.026	0.038	0.051	0.077	0.102	0.128	0.154	0.205	0.256	0.307
0.013	0.020	0.026	0.038	0.051	0.077	0.102	0.128	0.154	0.205	0.256	0.307
0.013	0.020	0.026	0.038	0.051	0.077	0.102	0.128	0.154	0.205	0.256	0.307
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.008	0.012	0.015	0.023	0.030	0.046	0.061	0.076	0.091	0.122	0.152	0.182
0.011	0.018	0.022	0.034	0.045	0.067	0.090	0.112	0.134	0.179	0.224	0.269
0.027	0.042	0.053	0.080	0.105	0.159	0.212	0.264	0.317	0.423	0.528	0.633
0.022	0.034	0.042	0.064	0.084	0.127	0.169	0.211	0.253	0.338	0.422	0.506
0.027	0.042	0.053	0.080	0.105	0.159	0.212	0.264	0.317	0.423	0.528	0.633
0.018	0.028	0.035	0.053	0.070	0.106	0.141	0.176	0.211	0.282	0.352	0.422
0.018	0.028	0.035	0.053	0.070	0.106	0.141	0.176	0.211	0.282	0.352	0.422

Feed per tooth **fz [mm]**

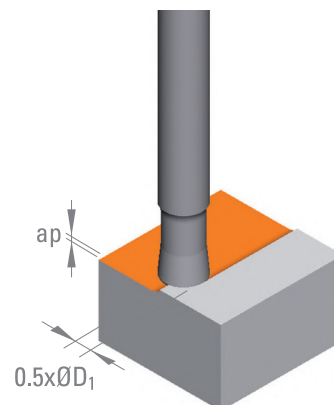
Ø D ₁ 0.50	Ø D ₁ 0.80	Ø D ₁ 1.00	Ø D ₁ 1.50	Ø D ₁ 2.00	Ø D ₁ 3.00	Ø D ₁ 4.00	Ø D ₁ 5.00	Ø D ₁ 6.00	Ø D ₁ 8.00	Ø D ₁ 10.00	Ø D ₁ 12.00
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.005	0.008	0.010	0.014	0.019	0.029	0.038	0.048	0.058	0.077	0.096	0.115
0.008	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	0.160	0.192
0.008	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	0.160	0.192
0.008	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	0.160	0.192
0.006	0.009	0.011	0.017	0.022	0.034	0.045	0.056	0.067	0.090	0.112	0.134
0.005	0.008	0.010	0.016	0.021	0.031	0.042	0.052	0.062	0.083	0.104	0.125
0.006	0.009	0.011	0.017	0.022	0.034	0.045	0.056	0.067	0.090	0.112	0.134
0.007	0.011	0.014	0.020	0.027	0.041	0.054	0.068	0.082	0.109	0.136	0.163
0.012	0.020	0.025	0.037	0.050	0.074	0.100	0.125	0.150	0.199	0.250	0.300
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250
0.012	0.020	0.025	0.037	0.050	0.074	0.100	0.125	0.150	0.199	0.250	0.300
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250



CUTTING CONDITIONS

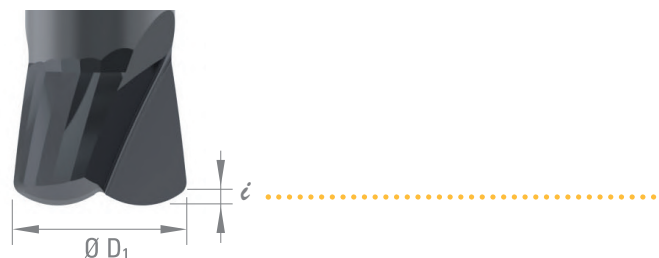
Face milling

Materials to be machined		XIDUR Vc [m/min]	ap [mm]
P	Unalloyed steel / Low alloyed steel < 600 N/mm ²	250	<1x ϵ
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm ²	200	<1x ϵ
P	Lead alloyed cutting steel	250	<1x ϵ
P	High alloyed steel 700 – 1500 N/mm ²	200	<1x ϵ
H	Hardened steel >50HRC	200	<0.8x ϵ
M	Stainless steel 400 – 700 N/mm ²	150	<0.8x ϵ
M	DUPLEX stainless steel > 800 N/mm ²	110	<0.8x ϵ
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	<1x ϵ
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	<1x ϵ
K	Nodular ferritic cast iron / Malleable cast iron	80	<1x ϵ
S	Special alloys / Heat resistant stainless steel	80	<0.5x ϵ
S	Titanium, titanium alloys	100	<0.5x ϵ
N	Copper alloys - easy to machine (brass - bronze)	350	<0.5x ϵ
N	Copper alloys - difficult to machine / Aluminium bronze	300	<1x ϵ
N	Aluminium alloys Si < 8%	400	<1x ϵ
N	Cast aluminium Si > 8%	300	<1x ϵ
N	Gold, silver	300	<1x ϵ



This tool doesn't have centre cutting edge

For face milling operation, the ϵ value is depending on the $\varnothing D_1$



Feed per tooth **fz [mm]**

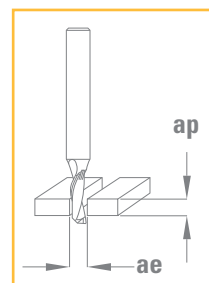
$\emptyset D_1$ 0.50	$\emptyset D_1$ 0.80	$\emptyset D_1$ 1.00	$\emptyset D_1$ 1.50	$\emptyset D_1$ 2.00	$\emptyset D_1$ 3.00	$\emptyset D_1$ 4.00	$\emptyset D_1$ 5.00	$\emptyset D_1$ 6.00	$\emptyset D_1$ 8.00	$\emptyset D_1$ 10.00	$\emptyset D_1$ 12.00
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.020	0.032	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	0.400	0.480
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.020	0.032	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	0.400	0.480
0.006	0.010	0.012	0.018	0.024	0.036	0.048	0.060	0.072	0.096	0.120	0.144
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.014	0.022	0.028	0.042	0.056	0.084	0.112	0.140	0.168	0.224	0.280	0.336
0.026	0.042	0.053	0.079	0.106	0.158	0.211	0.264	0.317	0.422	0.528	0.634
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.026	0.042	0.053	0.079	0.106	0.158	0.211	0.264	0.317	0.422	0.528	0.634
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.025	0.04	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50

ϵ value

Download the cutting conditions (pdf + xls) and the dxf profiles



CUTTING CONDITIONS

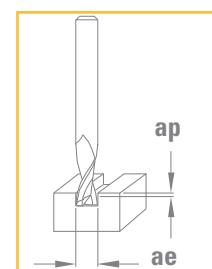


Materials to be machined			CARBIDE		DLC		ap [mm]	ae [mm]
			Vc [m/min]	Vc [m/min]	Vc [m/min]	Vc [m/min]		
P	Lead alloyed cutting steel		80	100			< 0.7 x ØD1	1 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		100	130	100	130	< 1 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	120	160	120	160	< 1 x ØD1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

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

DIXI 7552 - 7572 - 7582

CUTTING CONDITIONS



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



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

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

Feed per tooth

f_z [mm]

$\emptyset D_1$ 2.00 - 2.50	$\emptyset D_1$ 2.50 - 3.00	$\emptyset D_1$ 3.00 - 4.00	$\emptyset D_1$ 4.00 - 5.00	$\emptyset D_1$ 5.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00
0.010 - 0.03	0.013 - 0.04	0.02 - 0.05	0.02 - 0.06	0.03 - 0.07	0.03 - 0.10	0.04 - 0.12	0.05 - 0.17
0.014 - 0.04	0.018 - 0.05	0.02 - 0.06	0.03 - 0.08	0.04 - 0.09	0.04 - 0.12	0.06 - 0.15	0.07 - 0.21
0.014 - 0.04	0.018 - 0.05	0.02 - 0.06	0.03 - 0.08	0.04 - 0.09	0.04 - 0.12	0.06 - 0.15	0.07 - 0.21
0.014 - 0.04	0.018 - 0.05	0.02 - 0.06	0.03 - 0.08	0.04 - 0.09	0.04 - 0.12	0.06 - 0.15	0.07 - 0.21
0.020 - 0.05	0.025 - 0.06	0.03 - 0.08	0.04 - 0.10	0.05 - 0.12	0.06 - 0.16	0.08 - 0.20	0.10 - 0.28

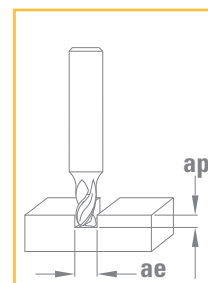
Feed per tooth

f_z [mm]

$\emptyset D_1$ 1.00 - 2.00	$\emptyset D_1$ 2.00 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 13.00	$\emptyset D_1$ 13.00 - 16.00	$\emptyset D_1$ 16.00 - 20.00
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
0.012 - 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



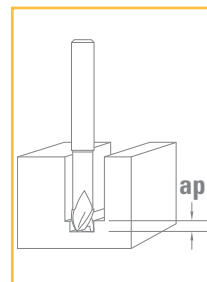
CUTTING CONDITIONS



Materials to be machined

			XIDUR		ap	ae
			Vc [m/min]		[mm]	[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	90	110	< 1.0 x ØD1	1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	70	90	< 0.6 x ØD1	1 x ØD1
P	Lead alloyed cutting steel		90	110	< 1.0 x ØD1	1 x ØD1
P	High alloyed steel	700 – 1500 N/mm ²	40	55	< 0.3 x ØD1	1 x ØD1
M	Stainless steel	400 – 700 N/mm ²	70	90	< 0.8 x ØD1	1 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	90	110	< 0.7 x ØD1	1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	70	90	< 0.4 x ØD1	1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		90	110	< 0.4 x ØD1	1 x ØD1
S	Titanium, titanium alloys		40	60	< 0.3 x ØD1	1 x ØD1

CUTTING CONDITIONS



DIXI 7593 Z = 3-4		Aluminium (Vc 400 - 600 m/min)					
D ₁	Z	Vc	n	Vf	ap	ae	fz
		[m/min]	[min ⁻¹]	[mm/min]	[mm]	[mm]	[mm]
6	3	400	21220	570	3	6	0.009
8	3	400	15920	570	4	8	0.012
10	3	400	12730	760	5	10	0.02
12	3	400	10610	760	6	12	0.024
16	3	400	7960	760	8	16	0.032
18	3	400	7070	760	9	18	0.036
20	4	400	6370	1020	10	20	0.04

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

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

Feed per tooth

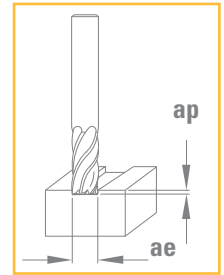
f_z [mm]

$\emptyset D_1$ 1.00 - 1.50	$\emptyset D_1$ 1.50 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 7.00	$\emptyset D_1$ 7.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00
0.002 - 0.01	0.003 - 0.01	0.006 - 0.02	0.010 - 0.02	0.014 - 0.04	0.02 - 0.05
0.002 - 0.01	0.002 - 0.01	0.005 - 0.01	0.008 - 0.02	0.011 - 0.03	0.02 - 0.04
0.003 - 0.01	0.004 - 0.01	0.008 - 0.03	0.013 - 0.04	0.018 - 0.05	0.03 - 0.07
0.002 - 0.01	0.002 - 0.01	0.005 - 0.01	0.008 - 0.02	0.011 - 0.03	0.02 - 0.04
0.002 - 0.01	0.002 - 0.01	0.005 - 0.01	0.008 - 0.02	0.011 - 0.03	0.02 - 0.04
0.002 - 0.01	0.003 - 0.01	0.006 - 0.02	0.010 - 0.02	0.014 - 0.04	0.02 - 0.05
0.002 - 0.01	0.002 - 0.01	0.005 - 0.01	0.008 - 0.02	0.011 - 0.03	0.02 - 0.04
0.002 - 0.01	0.003 - 0.01	0.006 - 0.02	0.010 - 0.02	0.014 - 0.04	0.02 - 0.05
0.002 - 0.01	0.002 - 0.01	0.005 - 0.01	0.008 - 0.02	0.011 - 0.03	0.02 - 0.04



DIXI 7563 - 7563-FC - 7565 - 7565-FC

CUTTING CONDITIONS - SLOTTING

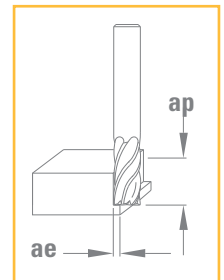


Materials to be machined			DIXAL			ap [mm]	ae [mm]	
			Vc [m/min]					
N	Copper alloys - easy to machine (brass - bronze)		150	250			< 1 x ØD1	1 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	100	180			< 0.7 x ØD1	1 x ØD1
N	Aluminium alloys	Si < 8%	400	550			< 1 x ØD1	1 x ØD1
N	Cast aluminium	Si > 8%	150	250			< 1 x ØD1	1 x ØD1
N	Gold, silver		200	300			< 1 x ØD1	1 x ØD1

DIXI 7563-FC - 7565-FC ⇒ Vc +30%
fz +30%

DIXI 7563 - 7563-FC - 7565 - 7565-FC

CUTTING CONDITIONS - ROUTING



Materials to be machined			DIXAL			ap [mm]	ae [mm]	
			Vc [m/min]					
N	Copper alloys - easy to machine (brass - bronze)		200	300			< 1.5 x ØD1	0.45 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	150	200			< 1.5 x ØD1	0.3 x ØD1
N	Aluminium alloys	Si < 8%	450	650			< 1.5 x ØD1	0.45 x ØD1
N	Cast aluminium	Si > 8%	200	300			< 1.5 x ØD1	0.35 x ØD1
N	Gold, silver		250	350			< 1.5 x ØD1	0.45 x ØD1

DIXI 7563-FC - 7565-FC ⇒ Vc +30%
fz +30%

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

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

Feed per tooth **fz [mm]**

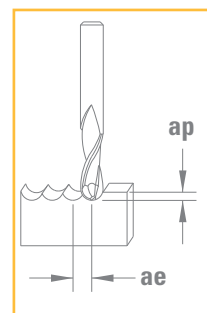
$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.024 - 0.066	0.036 - 0.088	0.048 - 0.100	0.050 - 0.108	0.048 - 0.128
0.019 - 0.053	0.029 - 0.070	0.038 - 0.080	0.040 - 0.086	0.038 - 0.102
0.024 - 0.066	0.036 - 0.088	0.048 - 0.100	0.050 - 0.108	0.048 - 0.128
0.020 - 0.056	0.031 - 0.075	0.041 - 0.085	0.043 - 0.092	0.041 - 0.109
0.024 - 0.066	0.036 - 0.088	0.048 - 0.100	0.050 - 0.108	0.048 - 0.128

Feed per tooth **fz [mm]**

$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.030 - 0.083	0.045 - 0.114	0.060 - 0.110	0.063 - 0.132	0.060 - 0.144
0.024 - 0.066	0.036 - 0.092	0.048 - 0.088	0.050 - 0.106	0.048 - 0.115
0.030 - 0.083	0.045 - 0.114	0.060 - 0.110	0.063 - 0.132	0.060 - 0.144
0.026 - 0.070	0.038 - 0.097	0.051 - 0.094	0.053 - 0.112	0.051 - 0.122
0.030 - 0.083	0.045 - 0.114	0.060 - 0.110	0.063 - 0.132	0.060 - 0.144



CUTTING CONDITIONS



DIXI 7532 XIDUR Z = 2		Tool steel and cast iron			30-45 HRC (Vc 400 - 500 m/min)		
D	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	Deff. [mm]	fz [mm]
0.2 - 1		90000	1800	0.02	0.05	0.28	0.01
1.5	400	84890	3400	0.04	0.06	0.48	0.02
2	400	63660	3820	0.05	0.09	0.62	0.03
3	400	42440	3400	0.07	0.13	1.08	0.04
4	400	31830	3180	0.09	0.15	1.20	0.05
5	400	25470	3570	0.15	0.25	1.71	0.07
6	400	21220	3400	0.20	0.30	2.15	0.08
8	400	15920	3180	0.25	0.35	2.78	0.10
10	400	12730	3820	0.30	0.50	3.41	0.15

DIXI 7532 XIDUR Z = 2		Tool steel and cast iron			45 - 55 HRC (Vc 250 - 350 m/min)		
D	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	Deff. [mm]	fz [mm]
0.2 - 1	250	79580	1110	0.02	0.05	0.28	0.007
1.5	250	53050	2120	0.03	0.07	0.42	0.02
2	250	39790	2390	0.04	0.09	0.56	0.03
3	250	26530	2120	0.05	0.11	0.77	0.04
4	250	19890	1990	0.07	0.15	1.04	0.05
5	250	15920	1910	0.12	0.20	1.53	0.06
6	250	13260	1860	0.15	0.25	1.87	0.07
8	250	9950	1790	0.20	0.30	2.50	0.09
10	250	7960	1750	0.25	0.40	3.12	0.11

DIXI 7532 XIDUR Z = 2		Tool steel and cast iron			55 - 65 HRC (Vc 100 - 200 m/min)		
D	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	Deff. [mm]	fz [mm]
0.2 - 1	130	41380	330	0.02	0.04	0.28	0.004
1.5	130	27590	390	0.03	0.05	0.42	0.007
2	130	20690	410	0.04	0.06	0.56	0.010
3	130	13790	410	0.05	0.07	0.77	0.015
4	130	10350	520	0.06	0.10	0.97	0.025
5	130	8280	500	0.08	0.16	1.25	0.030
6	130	6900	550	0.10	0.18	1.54	0.040
8	130	5170	520	0.15	0.20	2.17	0.050
10	130	4140	500	0.18	0.22	2.65	0.060

Microlubrication recommended, emulsion inadequate

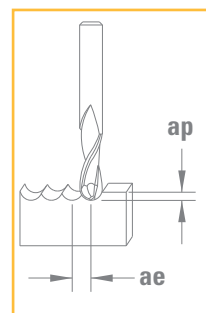
The indicated **n** and **Vf** values should be considered as starting points. Depending on the quality of shape to be machined (precision and surface finish) these values can be increased or reduced.

If the recommended rpm cannot be obtained on the spindle, **Vf** must be reduced proportionally.

Down milling is recommended when possible.



CUTTING CONDITIONS



DIXI 7542 XIDUR Z = 2		Tool steel and cast iron			30-45 HRC		(Vc 400 - 500 m/min)	
D	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	Deff. [mm]	fz [mm]	
1		90000	1800	0.02	0.05	0.28	0.01	
1.5	320	67910	2720	0.04	0.06	0.48	0.02	
2	320	50930	3060	0.05	0.09	0.62	0.03	
3	320	33950	2720	0.07	0.13	1.08	0.04	
4	320	25470	2550	0.09	0.15	1.20	0.05	
5	320	20370	2850	0.15	0.25	1.71	0.07	
6	320	16980	2720	0.20	0.30	2.15	0.08	
8	320	12730	2550	0.25	0.35	2.78	0.10	
10	320	10190	3060	0.30	0.50	3.41	0.15	
12	320	8490	3400	0.40	0.60	4.31	0.20	

DIXI 7542 XIDUR Z = 2		Tool steel and cast iron			45 - 55 HRC		(Vc 250 - 350 m/min)	
D	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	Deff. [mm]	fz [mm]	
1	200	63660	890	0.02	0.05	0.28	0.007	
1.5	200	42440	1700	0.03	0.07	0.42	0.020	
2	200	31830	1910	0.04	0.09	0.56	0.030	
3	200	21220	1700	0.05	0.11	0.77	0.040	
4	200	15920	1590	0.07	0.15	1.04	0.050	
5	200	12730	1530	0.12	0.20	1.53	0.060	
6	200	10610	1490	0.15	0.25	1.87	0.070	
8	200	7960	1430	0.20	0.30	2.50	0.090	
10	200	6370	1400	0.25	0.40	3.12	0.110	
12	200	5310	1380	0.30	0.50	3.75	0.130	

DIXI 7542 XIDUR Z = 2		Tool steel and cast iron			55 - 65 HRC		(Vc 100 - 200 m/min)	
D	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	Deff. [mm]	fz [mm]	
1	100	31830	250	0.02	0.04	0.28	0.004	
1.5	100	21220	300	0.03	0.05	0.42	0.007	
2	100	15920	320	0.04	0.06	0.56	0.010	
3	100	10610	320	0.05	0.07	0.77	0.015	
4	100	7960	400	0.06	0.10	0.97	0.025	
5	100	6370	380	0.08	0.16	1.25	0.030	
6	100	5310	420	0.10	0.18	1.54	0.040	
8	100	3980	400	0.15	0.20	2.17	0.050	
10	100	3180	380	0.18	0.22	2.65	0.060	
12	100	2650	420	0.20	0.25	3.07	0.080	

Microlubrication recommended, emulsion inadequate

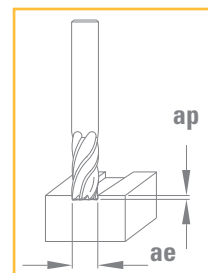
The indicated **n** and **Vf** values should be considered as starting points. Depending on the quality of shape to be machined (precision and surface finish) these values can be increased or reduced.

If the recommended rpm cannot be obtained on the spindle, **Vf** must be reduced proportionally.

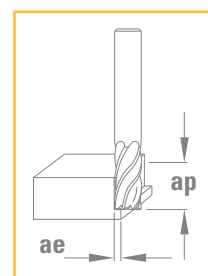
Down milling is recommended when possible.

CUTTING CONDITIONS

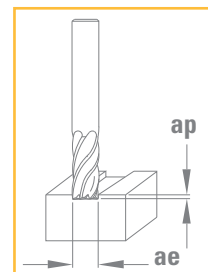
DIXI 7520 XIDUR Z = 3-12		Tool steel and cast iron			45 - 55 HRC (Vc 30 - 70 m/min)		
D ₁	Z	Vc (m/min)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	fz (mm)
0.4 - 0.9	3	30	-	-	0.03 x D ₁	1 x D ₁	0.001-0.002
1	4	40	12800	125	0.04	1.00	0.002
1.5	4	40	8500	125	0.05	1.50	0.0035
2	5	40	6300	125	0.07	2.00	0.004
3	5	40	4240	150	0.12	3.00	0.007
4	5	40	3180	160	0.15	4.00	0.010
6	6	40	2120	190	0.20	6.00	0.015
8	6	40	1590	190	0.25	8.00	0.020
10	6	40	1270	190	0.30	10.00	0.025
12	8	40	1060	210	0.40	12.00	0.025
16	10	40	800	240	0.60	16.00	0.030



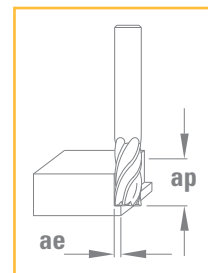
DIXI 7520 XIDUR Z = 3-12		Tool steel and cast iron			45 - 55 HRC (Vc 150 - 250 m/min)		
Ø	Z	Vc (m/min)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	fz (mm)
0.4 - 0.9	3	150	-	-	1 x D ₁	0.03 x D ₁	0.001-0.002
1	4	200	63700	640	1.00	0.04	0.002
1.5	4	200	42450	640	1.50	0.05	0.0035
2	5	200	32000	640	2.00	0.07	0.004
3	5	200	21300	750	3.00	0.12	0.007
4	5	200	15920	800	4.00	0.15	0.010
6	6	200	10610	950	6.00	0.20	0.015
8	6	200	7960	960	8.00	0.25	0.020
10	6	200	6370	960	10.00	0.30	0.025
12	8	200	5310	1060	12.00	0.40	0.025
16	10	200	3980	1190	16.00	0.60	0.030



DIXI 7520 XIDUR Z = 3-12		Tool steel and cast iron			55 - 65 HRC (Vc 12 - 40 m/min)		
Ø	Z	Vc (m/min)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	fz (mm)
0.4 - 0.9	3	12	-	-	0.03 x D ₁	1 x D ₁	0.001-0.002
1	4	15	4700	45	0.03	1.00	0.002
1.5	4	15	3180	45	0.03	1.50	0.0035
2	5	15	2300	45	0.04	2.00	0.004
3	5	15	1600	55	0.05	3.00	0.007
4	5	15	1190	60	0.06	4.00	0.010
6	6	15	800	70	0.09	6.00	0.015
8	6	15	600	70	0.12	8.00	0.020
10	6	15	480	70	0.15	10.00	0.025
12	8	15	400	80	0.18	12.00	0.025
16	10	15	300	90	0.20	16.00	0.030



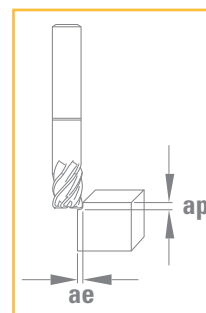
DIXI 7520 XIDUR Z = 3-12		Tool steel and cast iron			55 - 65 HRC (Vc 60 - 120 m/min)		
Ø	Z	Vc (m/min)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	fz (mm)
0.4 - 0.9	3	60	-	-	1 x D ₁	0.03 x D ₁	0.001-0.002
1	4	80	25500	250	1.00	0.03	0.002
1.5	4	80	17000	250	1.50	0.035	0.0035
2	5	80	12700	250	2.00	0.04	0.004
3	5	80	8500	290	3.00	0.05	0.007
4	5	80	6370	320	4.00	0.06	0.010
6	6	80	4240	380	6.00	0.09	0.015
8	6	80	3180	380	8.00	0.12	0.020
10	6	80	2550	380	10.00	0.15	0.025
12	8	80	2120	420	12.00	0.18	0.025
16	10	80	1590	480	16.00	0.20	0.030



Microlubrication recommended, emulsion inadequate



CUTTING CONDITIONS



DIXI 7070 XIDUR Z = 4-6		Tool steel and cast iron			30-45 HRC	(Vc 150 - 200 m/min)	
D ₁	Z	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	fz [mm]
3	4	150	15900	3800	0.20	0.80	0.06
4	4	150	11940	4300	0.25	0.85	0.09
5	4	150	9550	4580	0.30	0.90	0.12
6	4	150	7960	4460	0.35	1.00	0.14
8	6	150	5970	5730	0.40	1.10	0.16
10	6	150	4770	5150	0.45	1.30	0.18
12	6	150	3980	4780	0.50	1.50	0.20

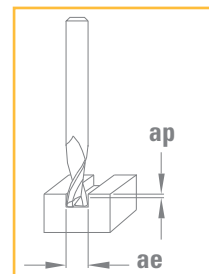
DIXI 7070 XIDUR Z = 4-6		Tool steel and cast iron			45 - 55 HRC	(Vc 130 - 170 m/min)	
D ₁	Z	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	fz [mm]
3	4	130	13700	2750	0.15	0.70	0.05
4	4	130	10350	3310	0.20	0.75	0.08
5	4	130	8280	3310	0.25	0.75	0.10
6	4	130	6900	3040	0.30	0.80	0.11
8	6	130	5170	3720	0.40	0.80	0.12
10	6	130	4140	3230	0.42	1.00	0.13
12	6	130	3450	2900	0.45	1.20	0.14

DIXI 7070 XIDUR Z = 4-6		Tool steel and cast iron			55 - 65 HRC	(Vc 100 - 130 m/min)	
D ₁	Z	Vc [m/min]	n [min ⁻¹]	Vf [mm/min]	ap [mm]	ae [mm]	fz [mm]
3	4	100	10600	500	0.08	0.20	0.010
4	4	100	7960	640	0.10	0.25	0.020
5	4	100	6370	890	0.12	0.28	0.035
6	4	100	5310	850	0.15	0.30	0.040
8	6	100	3980	1190	0.18	0.32	0.050
10	6	100	3180	1140	0.20	0.35	0.060
12	6	100	2650	1270	0.25	0.40	0.080



DIXI 7215 - 7215-FC

CUTTING CONDITIONS - SLOTTING

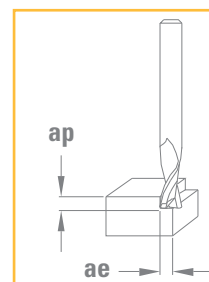


Materials to be machined			DAC			ap [mm]	ae [mm]	
			Vc [m/min]					
N	Copper alloys - easy to machine (brass - bronze)		150	250			$< 1.5 \times \text{ØD1}$	$1 \times \text{ØD1}$
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	100	180			$< 1.2 \times \text{ØD1}$	$1 \times \text{ØD1}$
N	Aluminium alloys	Si < 8%	400	550			$< 1.5 \times \text{ØD1}$	$1 \times \text{ØD1}$
N	Cast aluminium	Si > 8%	150	250			$< 1.5 \times \text{ØD1}$	$1 \times \text{ØD1}$
N	Gold, silver		200	300			$< 1.5 \times \text{ØD1}$	$1 \times \text{ØD1}$

DIXI 7215-FC ⇒ **Vc +30%**
fz +30%

DIXI 7215 - 7215-FC

CUTTING CONDITIONS - ROUTING



Materials to be machined			DAC			ap [mm]	ae [mm]	
			Vc [m/min]					
N	Copper alloys - easy to machine (brass - bronze)		200	300			$< 1.2 \times \text{ØD1}$	$0.55 \times \text{ØD1}$
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	150	200			$< 1.5 \times \text{ØD1}$	$0.35 \times \text{ØD1}$
N	Aluminium alloys	Si < 8%	450	650			$< 1.5 \times \text{ØD1}$	$0.55 \times \text{ØD1}$
N	Cast aluminium	Si > 8%	200	300			$< 1.5 \times \text{ØD1}$	$0.45 \times \text{ØD1}$
N	Gold, silver		250	350			$< 1 \times \text{ØD1}$	$0.55 \times \text{ØD1}$

DIXI 7215-FC ⇒ **Vc +30%**
fz +30%

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

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

Feed per tooth **fz [mm]**

$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.030 - 0.080	0.040 - 0.100	0.040 - 0.110	0.050 - 0.110	0.050 - 0.140
0.020 - 0.060	0.030 - 0.080	0.040 - 0.080	0.040 - 0.090	0.040 - 0.110
0.030 - 0.080	0.040 - 0.100	0.040 - 0.110	0.050 - 0.110	0.050 - 0.140
0.030 - 0.060	0.030 - 0.090	0.040 - 0.090	0.040 - 0.100	0.050 - 0.120
0.030 - 0.080	0.040 - 0.100	0.040 - 0.110	0.050 - 0.110	0.050 - 0.140

Feed per tooth **fz [mm]**

$\emptyset D_1$ 4.00 - 6.00	$\emptyset D_1$ 6.00 - 8.00	$\emptyset D_1$ 8.00 - 10.00	$\emptyset D_1$ 10.00 - 12.00	$\emptyset D_1$ 12.00 - 16.00
0.040 - 0.090	0.050 - 0.130	0.060 - 0.140	0.070 - 0.150	0.070 - 0.180
0.030 - 0.080	0.040 - 0.100	0.040 - 0.110	0.050 - 0.120	0.050 - 0.140
0.040 - 0.090	0.050 - 0.130	0.060 - 0.140	0.070 - 0.150	0.070 - 0.180
0.030 - 0.080	0.040 - 0.111	0.050 - 0.120	0.060 - 0.130	0.060 - 0.150
0.040 - 0.090	0.050 - 0.130	0.060 - 0.140	0.070 - 0.150	0.070 - 0.180

