



GRAVAGE



GRAVIEREN



ENGRAVING



INCISIONE



GRAVÍROZÁS

SELECTION OF ENGRAVING TOOLS 222



3/4 ENGRAVING TOOLS 225



1/2 ENGRAVING TOOLS 228



HELICAL ENGRAVING TOOLS 230



SEMI-FINISHED ENGRAVING TOOLS 231



INFORMATION 233



CUTTING CONDITIONS 234

SELECTION OF ENGRAVING TOOLS

✓ = item from stock

		Page		<input type="checkbox"/> CARBIDE	<input type="checkbox"/> DINAC	<input type="checkbox"/> DLC	
FINISHED ENGRAVING TOOLS							
3/4 ENGRAVING TOOLS							
DIXI 7009		225	D = 3.00 D ₁ = 0.05-0.15	✓	✓		
DIXI 7001		225	D = 3.00 D ₁ = 0.05-0.20	✓	✓		
DIXI 7003		226	D = 3.00 R 0.05 - R 0.20	✓	✓		
DIXI 7002		226	D = 3.00 D ₁ = 0.05-0.20	✓	✓		
DIXI 7005		227	D = 3.00 D ₁ = 0.05-0.15	✓	✓		
DIXI 7006		227	D = 3.00 D ₁ = 0.05-0.15	✓	✓		
1/2 ENGRAVING TOOLS							
DIXI 7013		228	D = 3.00 D ₁ = 0.05-0.20	✓	✓	✓	
DIXI 7015		228	D = 3.00 D ₁ = 0.05-0.20	✓	✓		
DIXI 7017		229	D = 3.00-4.00 D ₁ = 0.05-0.20	✓	✓		
DIXI 7018		229	D = 3.00 D ₁ = 0.05-0.10	✓	✓		
DIXI 7019		230	D = 3.00 D ₁ = 0.05-0.10	✓	✓		
HELICAL ENGRAVING TOOLS							
DIXI 7025		230	D = 3.00-4.00 D ₁ = 0.10-0.15	✓			



○ good ⊙ excellent

Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron 45-55 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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○	⊙	⊙	⊙	○	○	⊙	⊙	○	⊙	○	○	○
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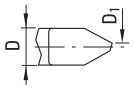




⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
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⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○

					⊙			⊙		⊙		
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SELECTION OF ENGRAVING TOOLS

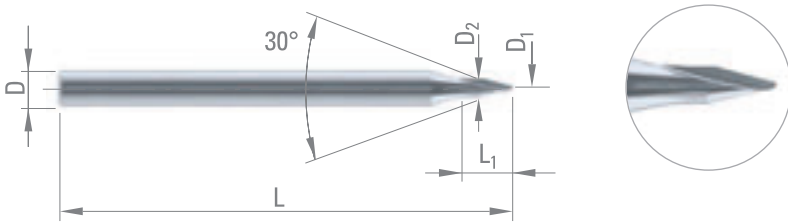
✓ = item from stock

SEMI-FINISHED ENGRAVING TOOLS				<input type="checkbox"/> CARBIDE			
DIXI 7012		231	D = 3.00-8.00 D ₁ = 1.00-2.60	✓			
DIXI 7016		231	D = 2.00-8.00	✓			
DIXI 7020		232	D = 2.00-10.00	✓			
DIXI 7024		232	D = 3.00-6.00	✓			



DIXI 7009

3/4 ENGRAVING TOOLS, 30° FINISHED STYLE



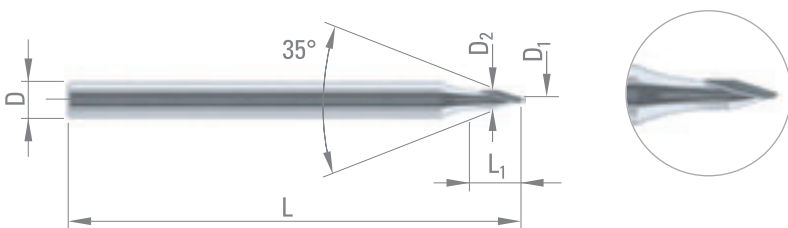
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_{1\pm 0.01}$	L_1	D_2	D_{h5}	L	CARBIDE	DINAC
0.05	3.4	1.5	3	38	976370	976374
0.08	3.4	1.5	3	38	976371	976375
0.10	3.4	1.5	3	38	976372	976376
0.15	3.4	1.5	3	38	976373	976377

DIXI 7001

3/4 ENGRAVING TOOLS, 35° FINISHED STYLE



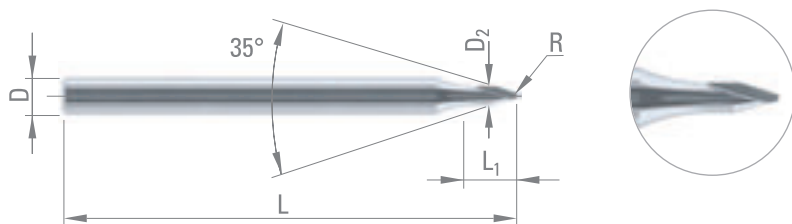
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1\pm 0.01}$	L_1	D_2	D_{h5}	L	CARBIDE	DINAC
0.05	3.4	1.5	3	38	65846	959722
0.08	3.4	1.5	3	38	961244	961245
0.10	3.4	1.5	3	38	65848	959724
0.15	3.4	1.5	3	38	65850	959725
0.20	3.4	1.5	3	38	65852	959726

DIXI 7003

3/4 ENGRAVING TOOLS, 35° FINISHED STYLE



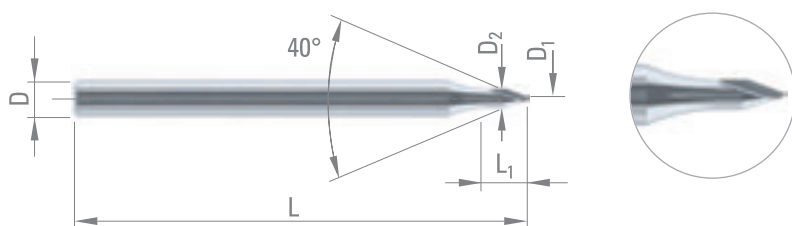
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$R_{\pm 0.01}$	L_1	D_2	D_{h5}	L	CARBIDE	DINAC
0.05	3.4	1.5	3	38	51736	959718
0.10	3.4	1.5	3	38	51625	959719
0.15	3.4	1.5	3	38	51734	959720
0.20	3.4	1.5	3	38	51735	959721

DIXI 7002

3/4 ENGRAVING TOOLS, 40° FINISHED STYLE



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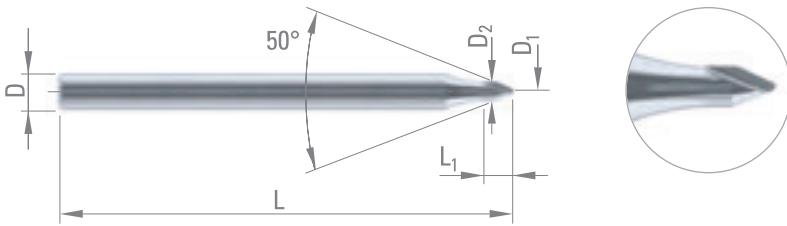
Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1\pm 0.01}$	L_1	D_2	D_{h5}	L	CARBIDE	DINAC
0.05	3.2	1.5	3	38	961225	961238
0.08	3.2	1.5	3	38	961242	961243
0.10	3.2	1.5	3	38	961226	961239
0.15	3.2	1.5	3	38	961227	961240
0.20	3.2	1.5	3	38	961228	961241



DIXI 7005

3/4 ENGRAVING TOOLS, 50°
FINISHED STYLE



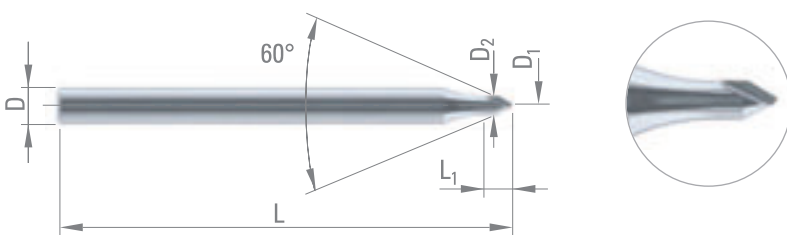
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1\pm 0.01}$	L_1	D_2	D_{h5}	L	CARBIDE	DINAC
0.05	2.3	1.5	3	38	976258	976264
0.08	2.3	1.5	3	38	976260	976265
0.10	2.3	1.5	3	38	976261	976266
0.15	2.3	1.5	3	38	976263	976267

DIXI 7006

3/4 ENGRAVING TOOLS, 60°
FINISHED STYLE



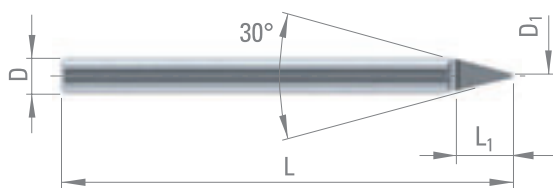
P. 235

Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1\pm 0.01}$	L_1	D_2	D_{h5}	L	CARBIDE	DINAC
0.05	2.3	1.5	3	38	976361	976365
0.08	2.3	1.5	3	38	976362	976366
0.10	2.3	1.5	3	38	976363	976367
0.15	2.3	1.5	3	38	976364	976368

DIXI 7013

1/2 ENGRAVING TOOLS, 30°
SEMI-FINISHED STYLE



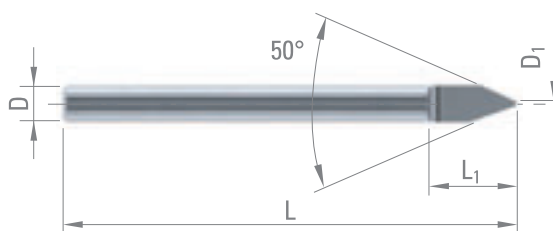
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_{1\pm 0.01}$	L_1	D_{h5}	L	CARBIDE	DINAC	DLC
0.05	4	3	38	961336	962814	961337
0.10	4	3	38	961338	962813	961339
0.15	4	3	38	961340	962812	961342
0.20	4	3	38	961341	962116	961343

DIXI 7015

1/2 ENGRAVING TOOLS, 50°
FINISHED STYLE



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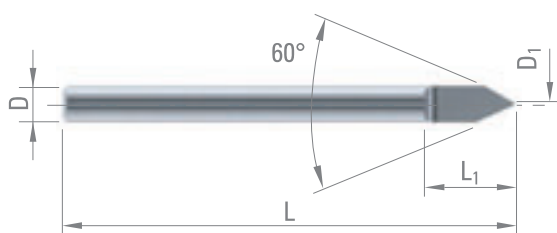
Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_{1\pm 0.01}$	L_1	D_{h5}	L	CARBIDE	DINAC
0.05	6	3	38	961326	961327
0.08	6	3	38	961328	961333
0.10	6	3	38	961329	961332
0.15	6	3	38	961330	961334
0.20	6	3	38	961331	961335



DIXI 7017

1/2 ENGRAVING TOOLS, 60°
FINISHED STYLE



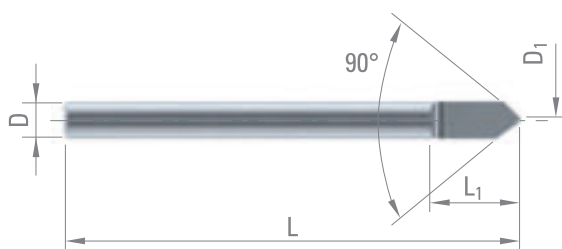
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_{1\pm 0.01}$	L_1	D_{h5}	L	CARBIDE	DINAC
0.05	6	3	38	43536	959712
	8	4	50	43537	959714
0.08	6	3	38	972400	972401
	8	4	50	40939	959713
0.10	6	3	38	45813	959716
	8	4	50	953721	960610
0.15	6	3	38	954292	960611
	8	4	50	45814	959717

DIXI 7018

1/2 ENGRAVING TOOLS, 90°
FINISHED STYLE



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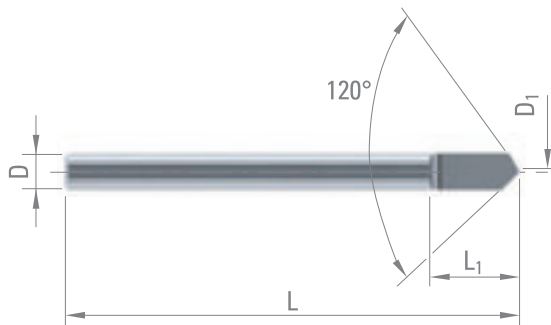
Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_{1\pm 0.01}$	L_1	D_{h5}	L	CARBIDE	DINAC
0.05	6	3	38	961246	961248
0.10	6	3	38	961247	961249



DIXI 7019

1/2 ENGRAVING TOOLS, 120°
FINISHED STYLE



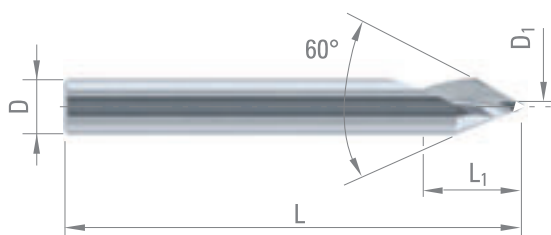
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Steel +Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_{1\pm 0.01}$	L_1	D_{h5}	L	CARBIDE	DINAC
0.05	6	3	38	961322	961323
0.10	6	3	38	961324	961325

DIXI 7025

SPIRAL ENGRAVING TOOLS, 60°
FINISHED STYLE



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Cast iron	Cu alloy Silver Gold	Al
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$D_{1\pm 0.02}$	L_1	D_{h5}	L	CARBIDE
0.10	9	3	38	43624
0.15	12	4	50	45812

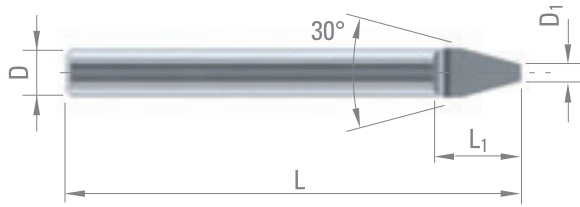


DIXI 7012

1/2 ENGRAVING TOOLS, 30°
SEMI-FINISHED STYLE



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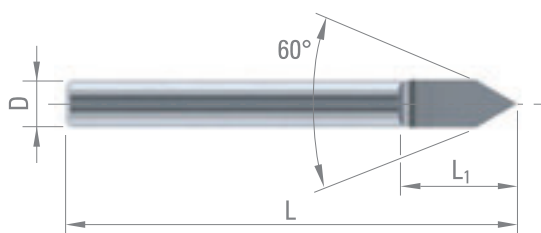
D ₁	L ₁	D _{h5}	L	CARBIDE
1.00	4	3	38	35505
1.30	5	4	50	35666
2.00	8	6	57	35506
2.60	10	8	63	35668

DIXI 7016

1/2 ENGRAVING TOOLS, 60°
SEMI-FINISHED STYLE



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D _{h5}	L ₁	L	CARBIDE
2	4	25	32852
3	6	38	23585
4	8	50	23586
5	10	50	35082
6	12	57	29726
8	14	63	29727

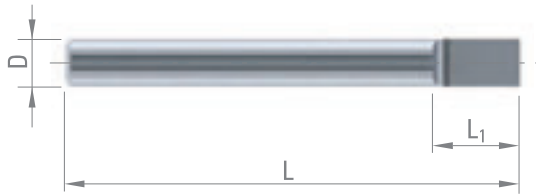


DIXI 7020

1/2 ENGRAVING TOOLS, 180°
SEMI-FINISHED STYLE



P. 233



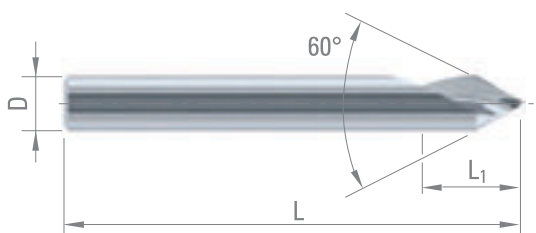
D_{h5}	L_1	L	CARBIDE
2	3	25	35671
3	4	38	35672
4	5	50	35673
5	6	50	35674
6	8	57	35675
8	10	63	35676
10	12	72	35677

DIXI 7024

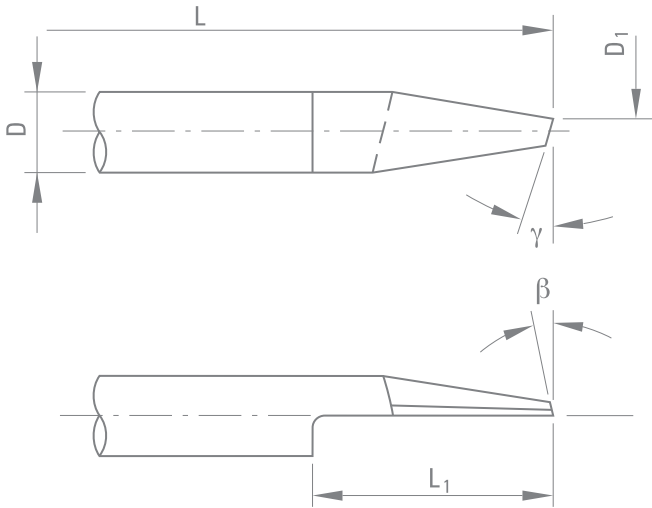
SPIRAL ENGRAVING TOOLS, 60°
SEMI-FINISHED STYLE



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D_{h5}	L_1	L	CARBIDE
3	9	38	35678
4	12	50	35679
6	15	50	35680



Mainly used for engraving symbols and texts, these tools can also be used for machining contours (cutting of profiles) and for copying operations for moulds and dies.

FINISHED EXECUTIONS

On request, DIXI POLYTOOL will supply these tools ground according to the customer's specifications.

The grinding angles will correspond to the opposite table.

Please indicate D_1 and material to be machined when ordering.

Materials	β	γ
Tool steel	10°	3° - 5°
Steel	15°	3° - 5°
Stainless steel	15°	3° - 5°
Cast iron	15°	3° - 5°
Copper	20°	3° - 5°
Brass	15°	3° - 5°
Nickel-silver	15°	3° - 5°
Duralumin	20°	3° - 5°
Aluminium	20°	3° - 5°
Gold	15°	3° - 5°
Pure titanium	15°	3° - 5°
Celluloid	25°	3° - 5°
Plastic	20°	3° - 5°
Wood	25°	3° - 5°



CUTTING CONDITIONS

Materials to be machined			CARBIDE	DINAC	Ø D ₁ 0.05 - 0.10		Ø D ₁ 0.15 - 0.40	
			n [tr/min]	n [tr/min]	Vf[mm/min]	ap[mm]	Vf[mm/min]	ap[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	20 - 35'000	20 - 35'000	50 - 250	0.05 - 0.30	100 - 300	0.10 - 0.40
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²		20 - 35'000	50 - 200	0.05 - 0.25	80 - 250	0.10 - 0.35
P	Lead alloyed cutting steel			20 - 35'000	50 - 250	0.05 - 0.30	100 - 300	0.10 - 0.40
P	High alloyed steel	700 – 1500 N/mm ²		20 - 35'000	50 - 150	0.05 - 0.15	80 - 250	0.10 - 0.30
M	Stainless steel	400 – 700 N/mm ²		20 - 35'000	50 - 150	0.05 - 0.20	80 - 250	0.10 - 0.30
M	DUPLEX stainless steel	> 800 N/mm ²		20 - 35'000	50 - 150	0.05 - 0.15	80 - 250	0.10 - 0.30
H	Tool steel and cast iron	> 1500 N/mm ² (45 - 55 HRC)		20 - 35'000			80 - 250	0.02 - 0.05
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	20 - 35'000	20 - 35'000	50 - 250	0.05 - 0.30	100 - 300	0.10 - 0.40
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	20 - 35'000	20 - 35'000	50 - 200	0.05 - 0.25	80 - 250	0.10 - 0.35
K	Nodular ferritic cast iron / Malleable cast iron		20 - 35'000	20 - 35'000	50 - 200	0.05 - 0.25	80 - 250	0.10 - 0.35
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy		15 - 25'000			80 - 200	0.03 - 0.10
S	Titanium, titanium alloys		20 - 35'000	20 - 35'000	50 - 200	0.05 - 0.25	100 - 250	0.10 - 0.35
N	Copper alloys - easy to machine (brass - bronze)		20 - 35'000	20 - 35'000	50 - 300	0.05 - 0.30	150 - 450	0.10 - 0.40
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	20 - 35'000	20 - 35'000	50 - 200	0.05 - 0.30	100 - 300	0.10 - 0.45
N	Aluminium alloys	Si < 8%	20 - 35'000	20 - 35'000	50 - 300	0.05 - 0.30	150 - 450	0.10 - 0.45
N	Cast aluminium	Si > 8%	20 - 35'000	20 - 35'000	50 - 300	0.05 - 0.30	150 - 450	0.10 - 0.45
N	Graphite		20 - 35'000	20 - 35'000	50 - 300	0.05 - 0.30	150 - 450	0.10 - 0.45
N	Plastic		20 - 35'000	20 - 35'000	50 - 300	0.05 - 0.30	150 - 450	0.10 - 0.45
N	Gold, silver		20 - 35'000	20 - 35'000	50 - 300	0.05 - 0.30	150 - 450	0.10 - 0.45



CUTTING CONDITIONS

Materials to be machined			CARBIDE	DINAC	Ø D ₁ 0.05 - 0.10		Ø D ₁ 0.15 - 0.50	
			n [tr/min]	n [tr/min]	Vf[mm/min]	ap[mm]	Vf[mm/min]	ap[mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	25 - 35'000		75 - 250	0.05 - 0.35	100 - 350	0.10 - 0.45
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²		25 - 35'000	60 - 250	0.05 - 0.30	80 - 300	0.10 - 0.40
P	Lead alloyed cutting steel		30 - 35'000		75 - 250	0.05 - 0.35	100 - 350	0.10 - 0.45
P	High alloyed steel	700 – 1500 N/mm ²		15 - 35'000	50 - 200	0.05 - 0.10	80 - 300	0.10 - 0.35
M	Stainless steel	400 – 700 N/mm ²		20 - 35'000	50 - 200	0.05 - 0.25	80 - 300	0.10 - 0.35
M	DUPLEX stainless steel	> 800 N/mm ²		15 - 35'000	50 - 200	0.05 - 0.20	80 - 300	0.10 - 0.35
H	Tool steel and cast iron	> 1500 N/mm ² (45 - 55 HRC)		20 - 35'000			80 - 250	0.02 - 0.07
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	25 - 35'000		50 - 300	0.05 - 0.35	100 - 350	0.10 - 0.45
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	15 - 35'000	15 - 35'000	50 - 250	0.05 - 0.30	80 - 300	0.10 - 0.40
K	Nodular ferritic cast iron / Malleable cast iron		15 - 35'000	15 - 35'000	50 - 250	0.05 - 0.30	80 - 300	0.10 - 0.40
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy		10 - 15'000			80 - 250	0.05 - 0.10
S	Titanium, titanium alloys		20 - 35'000		75 - 200	0.05 - 0.20	100 - 300	0.10 - 0.40
N	Copper alloys - easy to machine (brass - bronze)		30 - 35'000		75 - 300	0.05 - 0.20	150 - 450	0.20 - 0.30
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	20 - 35'000		75 - 350	0.05 - 0.15	150 - 300	0.10 - 0.20
N	Aluminium alloys	Si < 8%	25 - 35'000		75 - 300	0.05 - 0.30	150 - 450	0.15 - 0.50
N	Cast aluminium	Si > 8%	20 - 35'000		75 - 350	0.05 - 0.20	150 - 450	0.15 - 0.45
N	Graphite		20 - 35'000		75 - 350	0.05 - 0.20	150 - 450	0.15 - 0.40
N	Plastic		30 - 35'000		100 - 350	0.05 - 0.30	180 - 450	0.15 - 0.50
N	Gold, silver		25 - 35'000		75 - 350	0.05 - 0.20	150 - 450	0.15 - 0.40

