

SELECTION OF ENGRAVING TOOLS **200**



3/4 ENGRAVING TOOLS **205**



1/2 ENGRAVING TOOLS **208**



HELICAL ENGRAVING TOOLS **210**



SEMI-FINISHED ENGRAVING TOOLS **211**



INFORMATION **213**



CUTTING CONDITIONS **214**

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		205	Ø 3.00 D ₁ 0.05 - 0.15	✓	✓	
DIXI 7001		205	Ø 3.00 D ₁ 0.05 - 0.20	✓	✓	
DIXI 7003		206	Ø 3.00 R 0.05 - 0.20	✓	✓	
DIXI 7002		206	Ø 3.00 D ₁ 0.05 - 0.20	✓	✓	
DIXI 7005		207	Ø 3.00 D ₁ 0.05 - 0.15	✓	✓	
DIXI 7006		207	Ø 3.00 D ₁ 0.05 - 0.15	✓	✓	
1/2 ENGRAVING TOOLS						
DIXI 7013		208	Ø 3.00 D ₁ 0.05 - 0.20	✓	✓	*
DIXI 7015		208	Ø 3.00 D ₁ 0.05 - 0.20	✓	✓	
DIXI 7017		209	Ø 3.00 - 4.00 D ₁ 0.05 - 0.20	✓	✓	
DIXI 7018		209	Ø 3.00 D ₁ 0.05 - 0.10	✓	✓	
DIXI 7019		210	Ø 3.00 D ₁ 0.05 - 0.10	✓	✓	
HELICAL ENGRAVING TOOLS						
DIXI 7025		210	Ø 3.00 - 4.00 D ₁ 0.10 - 0.15	✓		



○ good ⊙ excellent

Steel < 600MPa	Steel > 600MPa	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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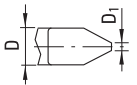




⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○
⊙	○	○	○		⊙	○	○	⊙	○	⊙	⊙	○

					⊙			⊙		⊙		
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SELECTION OF ENGRAVING TOOLS

✓ = item from stock

SEMI-FINISHED ENGRAVING TOOLS				<input type="checkbox"/> CARBIDE			
DIXI 7012		211	Ø 3.00 - 10.00 D ₁ 1.00 - 3.30	✓			
DIXI 7016		211	Ø 2.00 - 8.00	✓			
DIXI 7020		212	Ø 2.00 - 10.00	✓			
DIXI 7024		212	Ø 3.00 - 6.00	✓			

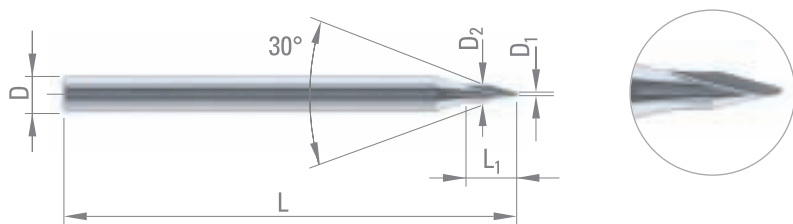


DIXI 7009

3/4 ENGRAVING TOOLS, 30°
FINISHED STYLE



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Steel < 600MPa	Steel > 600MPa	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			

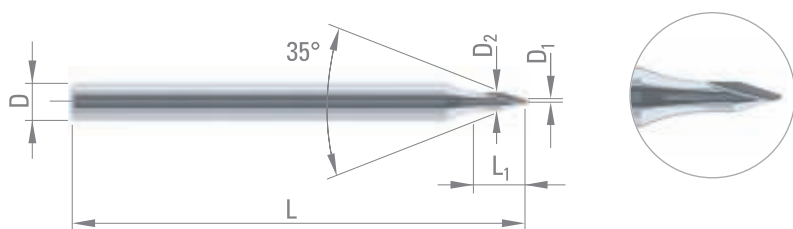
$D_{1 \pm 0.01}$	L_1	D_2	D_{h6}	L	CARBIDE	DINAC
0.05	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DIXI 7001

3/4 ENGRAVING TOOLS, 35°
FINISHED STYLE



P. 214



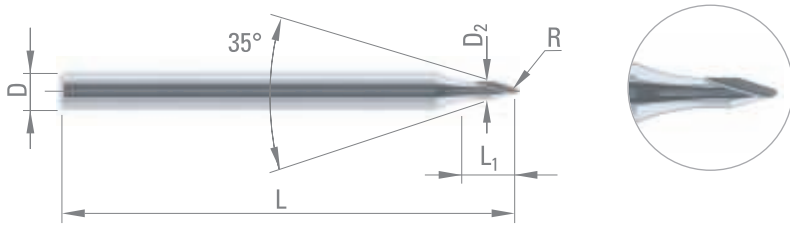
Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1 \pm 0.01}$	L_1	D_2	D_{h6}	L	CARBIDE	DINAC
0.05	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>



DIXI 7003

3/4 ENGRAVING TOOLS, 35° FINISHED STYLE



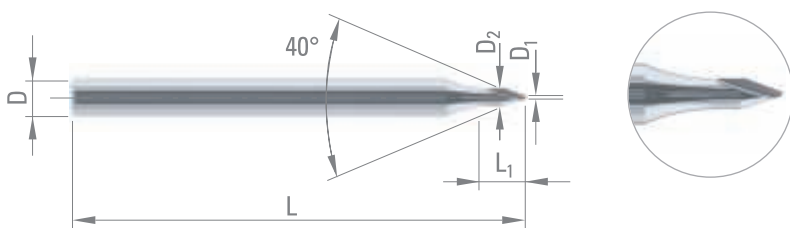
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Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$R_{\pm 0.01}$	L_1	D_2	D_{h6}	L	CARBIDE	DINAC
0.05	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	3.4	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DIXI 7002

3/4 ENGRAVING TOOLS, 40° FINISHED STYLE



P. 214

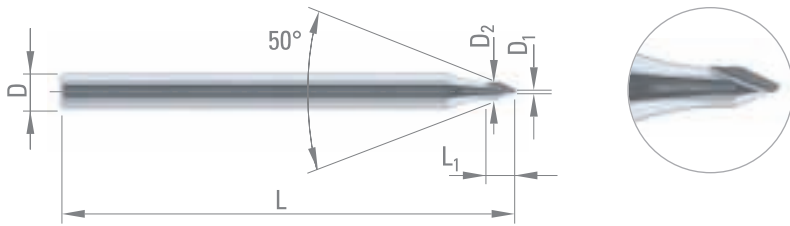
Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1\pm 0.01}$	L_1	D_2	D_{h6}	L	CARBIDE	DINAC
0.05	3.2	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	3.2	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	3.2	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	3.2	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	3.2	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>



DIXI 7005

3/4 ENGRAVING TOOLS, 50° FINISHED STYLE



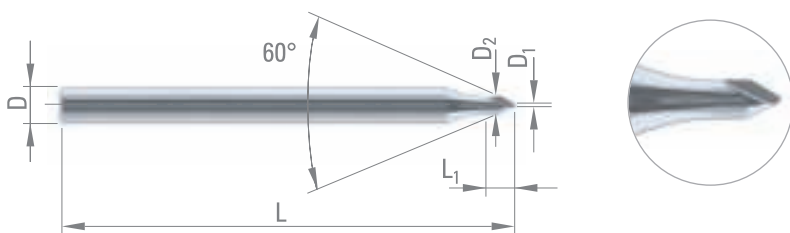
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Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1 \pm 0.01}$	L_1	D_2	D_{h6}	L	CARBIDE	DINAC
0.05	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DIXI 7006

3/4 ENGRAVING TOOLS, 60° FINISHED STYLE



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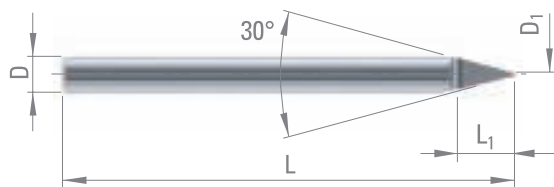
Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Cast iron 45-55 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

$D_{1 \pm 0.01}$	L_1	D_2	D_{h6}	L	CARBIDE	DINAC
0.05	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	2.3	1.5	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>



DIXI 7013

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



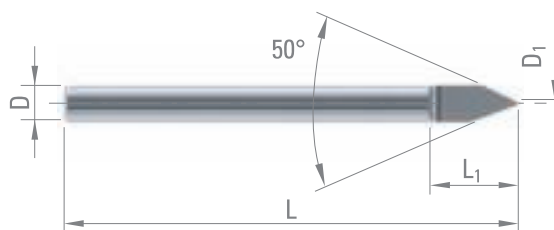
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Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_1 \pm 0.01$	L_1	D_{h6}	L	CARBIDE	DINAC	DLC
0.05	4	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	4	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	4	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	4	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

DIXI 7015

1/2 ENGRAVING TOOLS, 50°
FINISHED STYLE



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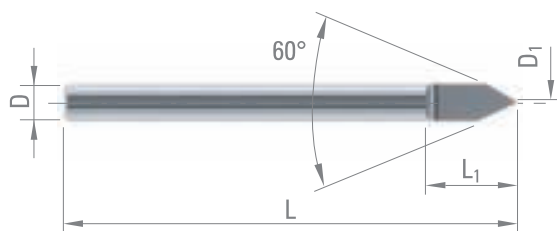
Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_1 \pm 0.01$	L_1	D_{h6}	L	CARBIDE	DINAC
0.05	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>



DIXI 7017

1/2 ENGRAVING TOOLS, 60°
FINISHED STYLE



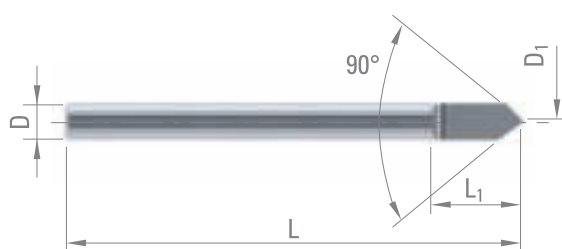
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Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_1 \pm 0.01$	L_1	D_{h6}	L	CARBIDE	DINAC
0.05	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.08	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.15	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.05	8	4	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	8	4	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.20	8	4	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DIXI 7018

1/2 ENGRAVING TOOLS, 90°
FINISHED STYLE



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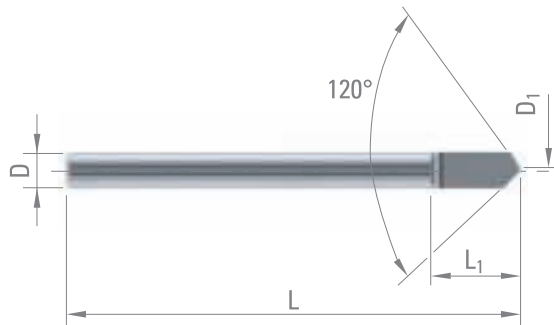
Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_1 \pm 0.01$	L_1	D_{h6}	L	CARBIDE	DINAC
0.05	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.10	6	3	38	<input type="checkbox"/>	<input checked="" type="checkbox"/>



DIXI 7019

1/2 ENGRAVING TOOLS, 120°
FINISHED STYLE



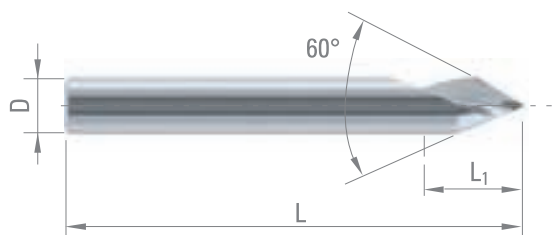
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Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

$D_1 \pm 0.01$	L_1	D_{h6}	L	CARBIDE	DINAC
0.05	6	3	38	□	■
0.10	6	3	38	□	■

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_{h6}	L	CARBIDE
0.10	9	3	38	□
0.15	12	4	50	□

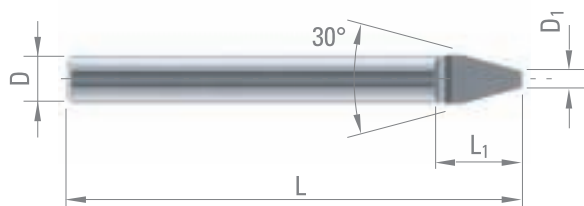


DIXI 7012

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



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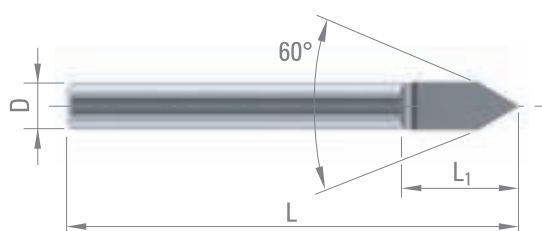
D_1	L_1	D_{h6}	L	CARBIDE
1.00	4	3	38	<input type="checkbox"/>
1.30	5	4	50	<input type="checkbox"/>
2.00	8	6	57	<input type="checkbox"/>
2.60	10	8	63	<input type="checkbox"/>
3.30	10	10	72	<input type="checkbox"/>

DIXI 7016

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



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D_{h6}	L_1	L	CARBIDE
2	4	25	<input type="checkbox"/>
3	6	38	<input type="checkbox"/>
4	8	50	<input type="checkbox"/>
5	10	50	<input type="checkbox"/>
6	12	57	<input type="checkbox"/>
8	14	63	<input type="checkbox"/>



DIXI 7020

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



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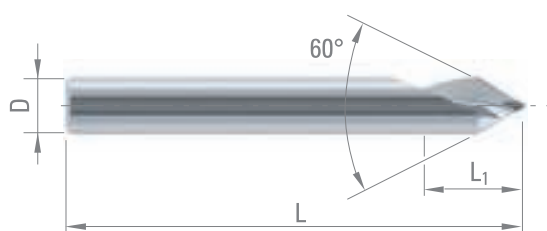
D_{h6}	L_1	L	CARBIDE
2	3	25	<input type="checkbox"/>
3	4	38	<input type="checkbox"/>
4	5	50	<input type="checkbox"/>
5	6	50	<input type="checkbox"/>
6	8	57	<input type="checkbox"/>
8	10	63	<input type="checkbox"/>
10	12	72	<input type="checkbox"/>

DIXI 7024

SPIRAL ENGRAVING TOOLS, 60°
SEMI-FINISHED STYLE

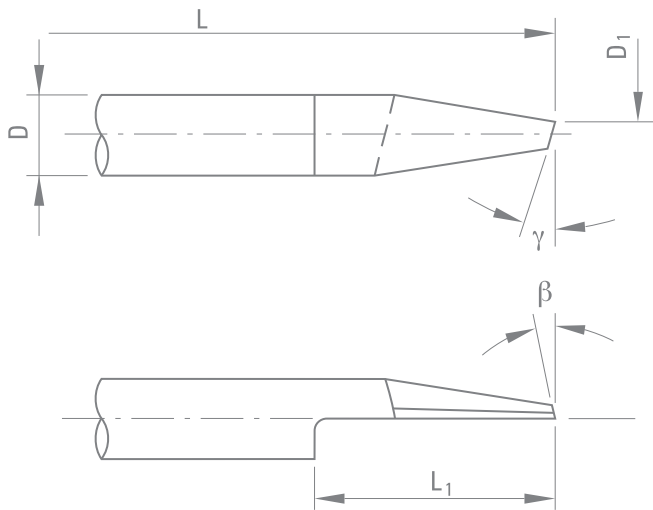


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D_{h6}	L_1	L	CARBIDE
3	9	38	<input type="checkbox"/>
4	12	50	<input type="checkbox"/>
6	15	50	<input type="checkbox"/>





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 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°
Celluloïd	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

