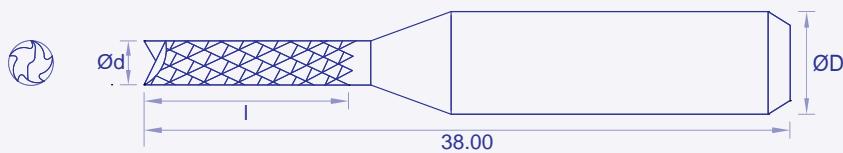




D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.50*		3.00	
0.60*		3.00	
0.80		5.00	-
0.90*		5.00	-
1.00		5.00	-
1.10		5.00*	7.00
1.20		5.00	-
1.30*		5.00	-
1.40*		5.00	-
1.50		8.00	-
1.60		8.00	-
1.70*		8.00	-
1.80		8.00	9.50*
2.00		8.00	9.50*
2.40		8.00	10.50*
2.50*		8.00	10.50

On request : Inch sizes / Special dimenions

* : Non stock items / Articles



Article P661*



Article P660



RECOMMENDED PARAMETERS FOR ROUTING FR4

DIAMETER mm	SPINDLE SPEED RPM	X-Y TABLE SPEED m/min	Z-FEED RATE m/min
0.60	70000	< 0.2	0.2
0.80	70000	< 0.4	0.2
0.90	70000	< 0.4	0.2
1.00	50000	0.4 - 0.6	0.4
1.20	50000	0.5 - 0.7	0.4
1.30	47000	0.5 - 0.7	0.5
1.40	43000	0.5 - 0.7	0.5
1.50	40000	0.6 - 0.8	0.5
1.60	38000	0.6 - 0.8	0.5
1.70	36000	0.7 - 1.0	0.5
1.80	34000	0.7 - 1.0	0.5
2.00	30000	1.0 - 1.4	0.5
2.40	35000	1.4 - 1.6	0.5

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

For routing of all standard PCBs with aggressive feed rates on rugged spindles.

ADVANTAGES

Long life and excellent performance under good vacuum conditions.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



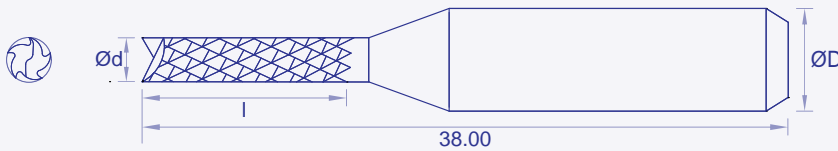
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.70*		5.00	-
0.80* / 0.90*		5.00	7.00
1.00		5.00	7.00
1.10*		5.00	7.00
1.20		5.00	7.00
1.30*		5.00	7.00
1.40*		5.00	7.00
1.50 / 1.60		8.50	-
1.80		8.50	-
2.00		9.00	10.50
2.10* / 2.20*		9.00	10.50*
2.30*		9.00	10.50*
2.40		9.00	10.50
2.50*		9.00	10.50
2.60* / 2.80*		9.00	-
2.90*		9.00	-
3.00*		9.00	10.50
3.175*		9.00	10.50

On request : Inch sizes / Special dimensions

* : Non stock items / Articles



Article P627*



Article P626



RECOMMENDED PARAMETERS FOR ROUTING FR4

DIAMETER mm	SPINDLE SPEED RPM	X-Y TABLE SPEED m/min	Z-FEED RATE m/min
0.80	70000	< 0.4	0.2
0.90	70000	< 0.4	0.2
1.00	50000	0.4 - 0.6	0.4
1.20	50000	0.5 - 0.7	0.4
1.30	47000	0.5 - 0.7	0.5
1.40	43000	0.5 - 0.7	0.5
1.50	40000	0.6 - 0.8	0.5
1.60	38000	0.6 - 0.8	0.5
1.70	36000	0.7 - 1.0	0.5
1.80	34000	0.7 - 1.0	0.5
2.00	30000	1.0 - 1.4	0.5
2.40	25000	1.0 - 1.4	0.5
2.50	24000	1.0 - 1.4	0.5
3.00	20000	1.0 - 1.3	0.5
3.175	20000	1.0 - 1.3	0.5

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Diamond patterned standard router used for routing outer contours in PCBs.

ADVANTAGES

Long life and excellent performance under efficient vacuum conditions.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



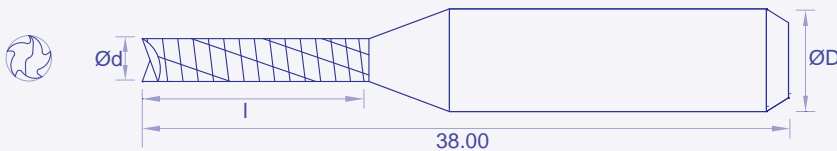
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	l		
mm	mm	mm	mm
0.40*	2.00	-	-
0.50* - 0.60*	3.00	4.00	-
0.70*	4.00	5.00	-
0.80	5.00	6.00	7.00*
0.90	5.00	6.00	7.00*
1.00	5.00	7.00	8.50*
1.10*	5.00	7.00	8.50*
1.20	5.00	7.00	8.50*
1.30* - 1.40*	5.00	7.00	8.50*
1.50*	8.50	-	-
1.60	8.50	-	-
1.70* - 1.90*	8.50	-	-
2.00	9.00	-	-
2.10*	9.00	-	-
2.40	9.00	-	-
2.50* - 2.90*	9.00	-	-
3.00	9.00	-	-
3.175*	9.00	-	-

On request : Inch sizes / Special dimensions

* : Non stock items / Articles



Article P729*



Article P724*
LHLC



Article P727*
LHRC



Article P726



RECOMMENDED PARAMETERS FOR ROUTING FR4

DIAMETER mm	SPINDLE SPEED RPM	X-Y TABLE SPEED m/min	Z-FEED RATE m/min
0.40	70000	< 0.1	0.2
0.50	70000	< 0.2	0.2
0.60	70000	< 0.3	0.2
0.80	70000	< 0.4	0.2
1.00	70000	0.4 - 0.6	0.4
1.20	58000	0.5 - 0.7	0.4
1.30	54000	0.5 - 0.7	0.5
1.40	50000	0.5 - 0.7	0.5
1.50	46000	0.6 - 0.8	0.5
1.60	43000	0.6 - 0.8	0.5
1.70	41000	0.7 - 1.0	0.5
1.80	39000	0.7 - 1.0	0.5
2.00	35000	1.0 - 1.4	0.5
2.40	29000	1.0 - 1.4	0.5
2.50	28000	1.0 - 1.4	0.5
3.00	23000	1.0 - 1.3	0.5
3.175	22000	1.0 - 1.3	0.5

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Spiral patterned standard router used for routing outer contours and inner contours of PCBs.

Routing of inner slotting in the PCBs.

ADVANTAGES

Smooth edge finish .
Good dimensional control because of efficient chip evacuation.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



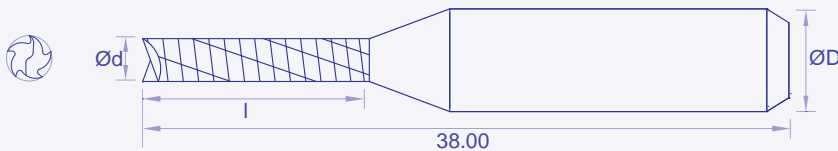
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.40*		2.50	-
0.50*		3.00	-
0.60		3.00	-
0.80		5.00	-
0.90*		5.00	-
1.00		5.00	-
1.10*		5.00	-
1.20		5.00	7.00*
1.30* / 1.40*		5.00	-
1.50		6.00	-
1.60		7.50	-
1.80		7.50	-
2.00		7.50	-
2.40		8.50	-
2.50		8.50	-
3.00		8.50*	-
3.175		8.50*	-

On request : Inch sizes / Special dimensions

* : Non stock items / Articles



Article P732



RECOMMENDED PARAMETERS FOR ROUTING FR4

DIAMETER mm	SPINDLE SPEED RPM	X-Y TABLE SPEED m/min	Z-FEED RATE (m/min)	
			Without Pre-Drilling	With Drilling
0.40	119000	< 0.2	0.2	0.4
0.50	95000	< 0.3	0.2	0.4
0.60	80000	< 0.3	0.2	0.4
0.70	70000	0.3 - 0.4	0.2	0.4
0.80	70000	0.3 - 0.4	0.2	0.4
0.90	70000	0.3 - 0.4	0.2	0.4
1.00	70000	0.4 - 0.6	0.2	0.4
1.20	58000	0.5 - 0.7	0.4	0.8
1.30	54000	0.5 - 0.7	0.4	0.8
1.40	50000	0.5 - 0.7	0.4	0.8
1.50	46000	0.6 - 0.8	0.5	1.0
1.60	43000	0.6 - 0.8	0.5	1.0
1.70	41000	0.7 - 1.0	0.5	1.0
1.80	39000	0.7 - 1.0	0.5	1.0
2.00	35000	1.0 - 1.4	0.5	1.2
2.40	29000	1.0 - 1.4	0.5	1.2
2.50	28000	1.0 - 1.4	0.5	1.4

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Spiral patterned standard router used for routing outer contours and inner contours PCBs.
Routing of inner slotting in the PCBs.

ADVANTAGES

Smooth edge finish.
Good dimensional control because of efficient chip evacuation.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



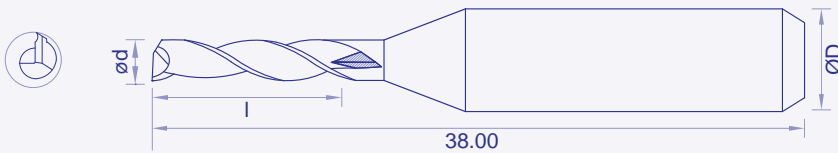
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.40		2.00	
0.50		3.00	
0.60		3.00	
0.80		3.00	
1.00		3.00	
1.20		4.00	
1.40		4.00	
1.50		4.00	
1.60		5.00	
1.80		5.00	
2.00		8.00	
2.40		8.00	
2.50		9.00	
3.00		9.00	
3.175		9.00	

On request : Inch sizes / Special dimensions

* : Non stock items / Articles

Article
P926



RECOMMENDED PARAMETERS FOR ROUTING

MATERIAL	FR-4	FR-2	CEM 3	CEM 1	PE	PTFE	POLYIMIDE	Al	Cu/BRASS
CUTTING SPEED (m/min)	190 - 200	160 - 180	160 - 180	160 - 180	100 - 120	100 - 120	100 - 120	200 - 250	180 - 220
Diameter mm	Chip Load microns								
0.40	2	2	4	4	4	4	4	1-2	1-2
0.60	4	4	6	6	6	6	6	1-2	1-2
0.80	6	6	8	8	8	8	8	2	2
1.00	8	8	10	10	10	10	10	3	3
1.20	10	10	14	12	14	14	14	5	5
1.60	18	18	22	22	25	25	25	8	8
2.00	34	34	40	40	35	35	35	12	12
2.40	44	44	52	52	40	40	40	15	15
3.00	53	53	64	64	45	45	45	18	18
3.175	55	55	66	66	50	50	50	20	20

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Routing teflon and flexible boards.
Soft plastic, foils, PE, PTFE, Polyimide, PMMA routing.

ADVANTAGES

For material producing long chips Aluminium, Copper, Brass.
Thin prepegs routing.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



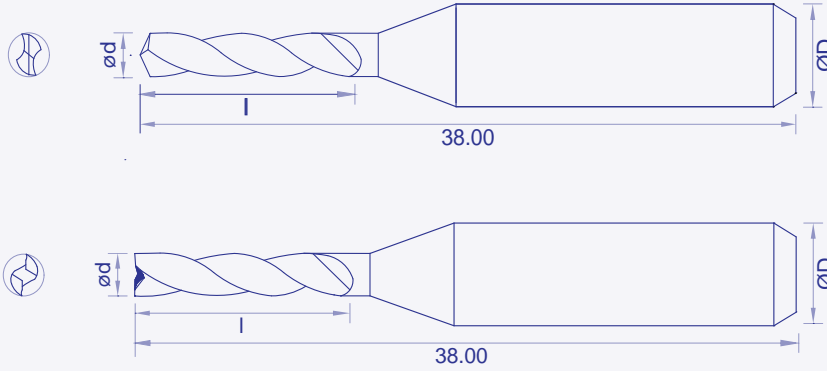
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.40*		2.00	-
0.50*		2.50	-
0.60*		3.00	-
0.70*		3.00	-
0.80		3.00	-
1.00		4.00	-
1.20		4.00	-
1.40*		4.00	-
1.50		5.00	-
1.60		5.00	-
1.80*		6.00	-
2.00		7.00	-
2.40		7.00	-
2.50*		8.00	-
3.00		8.00	10.00
3.175*		8.00	-

On request : Inch sizes / Special dimensions

* : Non stock items / Articles

Article P422*



Article P424



RECOMMENDED PARAMETERS FOR ROUTING ALUMINIUM PCB

DIAMETER mm	SPINDLE SPEED RPM	CHIP LOAD	X-Y TABLE FEED	Z-FEED RATE PRE DRILLED	ROUTING DEPTH mm	DEPTH IN TO BACK UP
		micron	m/min	m/min		
0.40	80000	0.6	0.05	0.2	0.50	0.3
0.60	80000	1.3	0.1	0.4	0.50	0.3
0.80	80000	2.5	0.2	0.6	1.00	0.4
1.00	70000	4.3	0.3	0.8	1.20	0.6
1.20	58000	5.2	0.3	0.8	1.50	0.6
1.40	50000	8.0	0.4	0.8	1.50	0.6
1.50	46000	8.7	0.4	1.0	2.00	0.8
1.60	44000	9.1	0.4	1.2	2.00	0.8
1.80	39000	10.3	0.4	1.2	2.20	0.8
2.00	35000	11.4	0.4	1.2	2.50	0.8
2.40	29000	17.2	0.5	1.2	3.00	0.8
2.50	28000	17.9	0.5	1.2	3.00	0.8
3.00	23000	30.4	0.7	1.2	3.00	1.0
3.175	22000	31.8	0.7	1.2	3.00	1.0

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Routing of aluminium and copper panels.
Routing of IMS/metal PCB / Heat sink PCBs.

ADVANTAGES

Depth routing with flat/square end style router.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



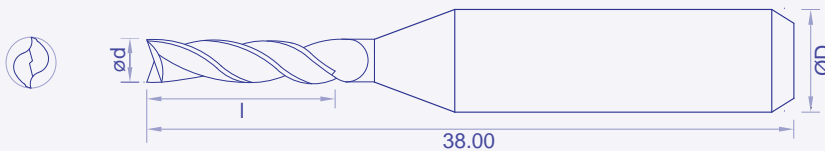
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.25 - 0.30*		1.00	-
0.40*		1.50	-
0.50* - 0.70		3.00	-
0.80		5.00	-
1.00		5.00	-
1.10		5.00	8.00*
1.20		5.00	8.00*
1.50		6.00	8.00*
1.60		6.00	8.00*
1.90		6.00	8.00*
2.00		8.00	-
2.40		8.00	-
2.50		8.00	-
3.00*		10.00	-
3.175*		10.00	-

On request : Inch sizes / Special dimensions

* : Non stock items / Articles

Article P820*



Article P826



RECOMMENDED PARAMETERS FOR ROUTING

MATERIAL	FR-4	FR-2	CEM 3	CEM 1	PE	PTFE	POLYIMIDE	Al	Cu/BRASS
CUTTING SPEED m/min	190 - 200	160 - 180	160 - 180	160 - 180	100 - 120	100 - 120	100 - 120	200 - 250	180 - 220
Diameter mm	Chip Load microns								
0.25	3	3	3	3	3	3	3	1	1
0.40	4	4	5	5	5	5	5	2	2
0.60	5	5	6	6	6	6	6	2	2
0.80	6	6	8	8	8	8	8	3	3
1.00	8	8	10	10	10	10	10	3	3
1.20	10	10	12	12	14	14	14	5	5
1.60	18	18	22	22	25	25	25	8	8
2.00	34	34	40	40	35	35	35	12	12
2.40	44	44	52	52	40	40	40	15	15
3.00	53	53	64	64	45	45	45	18	18
3.175	55	55	66	66	50	50	50	20	20

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Routing aluminium and copper heat sinks.
Routing flexi and flexirigid boards.

ADVANTAGES

Excellent surface finish for plated through holes.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



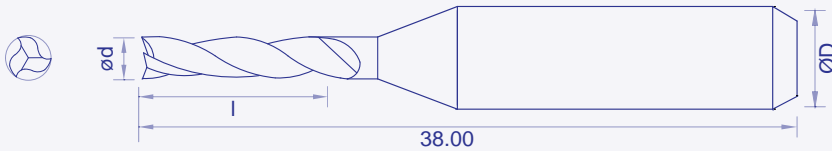
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.60		3.00	5.00
0.70		3.00	-
1.00		5.00	7.50
1.20		5.00	-
1.50		7.00	-
1.60		7.00	-
1.80		7.00	-
2.00		9.00	-
2.40		9.00	-
3.00		10.00	-
3.175		10.00	-

On request : Inch sizes / Special dimensions

* : Non stock items / Articles

Article P436



RECOMMENDED PARAMETERS FOR ROUTING

MATERIAL	FR-4	FR-2	CEM 3	CEM 1	PE	PTEF	POLYIMIDE	Al	Cu/BRASS
CUTTING SPEED m/min	190 - 200	160 - 180	160 - 180	160 - 180	100 - 120	100 - 120	100 - 120	200 - 250	180 - 220
Diameter mm	Chip Load microns								
0.60	5	5	6	6	6	7	7	2	2
0.80	6	6	8	8	8	8	8	2	2
1.00	8	8	10	10	10	10	10	3	3
1.20	10	10	12	12	14	14	14	5	5
1.60	18	18	22	22	25	25	25	8	8
2.00	34	34	40	40	35	35	35	12	12
2.40	44	44	52	52	40	40	40	15	15
3.00	53	53	64	64	45	45	45	18	18
3.175	55	55	66	66	50	50	50	20	20

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Routing Aluminium and Copper heat sinks.
Routing Flexi and flexirigid board.

ADVANTAGES

Excellent surface finish for plated through holes.
Efficient chip evacuation.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



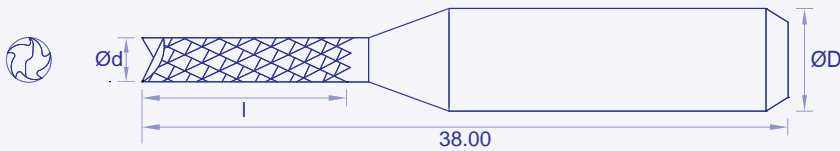
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



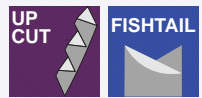
d	mm	l	mm
1.40*		7.00	
1.50*		8.00	
1.60		8.00	
1.80*		8.00	
2.00		8.00	
2.40*		10.50	
2.50*		10.50	

On request : Inch sizes / Special dimensions

* : Non stock items / Articles



Article P650



RECOMMENDED PARAMETERS FOR ROUTING FR4

DIAMETER mm	SPINDLE SPEED RPM	CHIP LOAD		X-Y TABLE FEED		
		mm/rev	mil/rev	mm/sec	m/min	in/min
1.40	38000	0.032	1.26	20	1.2	47
1.60	32000	0.050	1.56	26	1.6	62
1.80	30000	0.059	1.56	32	1.9	75
2.00	30000	0.059	1.56	32	1.9	75
2.40	25000	0.059	1.56	32	1.9	75
2.50	24000	0.059	1.56	32	1.9	75

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

For routing / depaneling PCBs in EMS industries.

ADVANTAGES

For smooth finish.
No loose burr on routed edge.
Close dimensional control.
Run with high feed rates and long tool life.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



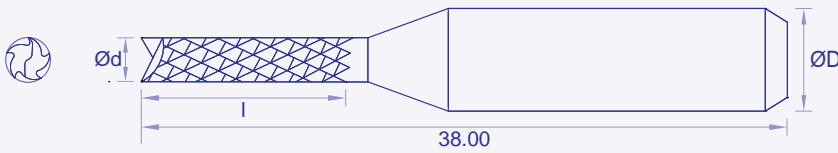
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D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
2.00*		13.00	
2.40*		13.00	
3.00*		13.00	
3.175		13.00	

On request : Inch sizes / Special dimensions

* : Non stock items / Articles



Article P628



RECOMMENDED PARAMETERS FOR ROUTING FR4

DIAMETER mm	SPINDLE SPEED RPM	X-Y TABLE SPEED m/min	Z-FEED RATE m/min
2.00	30000	1.0 - 1.4	0.5
2.40	25000	1.0 - 1.4	0.5
3.00	20000	1.0- 1.3	0.5
3.175	20000	1.0 - 1.3	0.5

Tabulated parameters provide guidelines which acts as starting points for optimising speeds and feeds at the user's end.

APPLICATION

Diamond patterned router used for routing contours in PCBs manual feeding machines.

ADVANTAGES

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



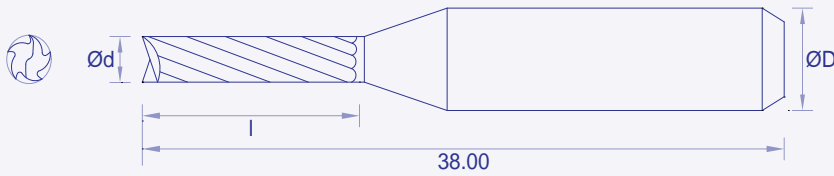
QUALITY • PRECISION • CONSISTENCY

www.indspinx.com
+91 1792 232860 / 232960
customerfocus@indspinx.com



D : Ø 1/8" (3.175 mm) Common Shank

On Request Shank Dia 3mm



d	mm	l	mm
0.60*		3.00	
0.80*		5.00	
1.00*		5.00	
1.00*		7.00	
1.40*		7.00	
1.50*		7.00	
1.60*		7.00	
1.80*		8.50	
2.00*		7.00	
2.40*		7.00	
2.50		7.00	

On request : Inch sizes / Special dimensions

* : Non stock items / Articles

APPLICATION

PCB routing outer and inner contours with very high surface finish requirements. It is especially used for edge trimming on pre-routed slots.

ADVANTAGES

Burr free routing of gold fingers.
Excellent surface finish on pre-routed slots.

PACKING

10 tools per pack.
50 tools per pack.

SCAN TO ORDER



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