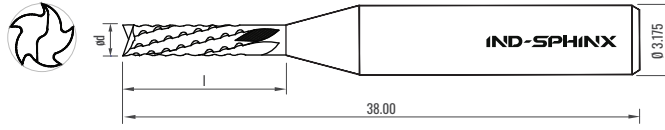


- IMS  
PCB  
Ceramic  
Layer
- FR4  
High Tg  
≥170
- FR4  
Ceramic  
Fillers
- Halogen  
Free  
Laminates
- FR4  
Normal Tg



- Down  
Cut
- Fishtail
- Chip  
Breaker



**APPLICATION**

Routing of inner and outer contours

Depaneling of assembled PCBs

Suitable for Halogen free,  
High Tg material ≥ 170°C  
and laminates with fillers

Ø d DIAMETER	I FLUTE LENGTH		mm
1.00	6.50	-	
1.10	6.50	-	
1.20	6.00 *	7.00	
1.30	7.00	-	
1.40	7.00	8.50	
1.50	7.50	8.50	
1.60	7.50 *	8.50	
1.70	7.50 *	8.50	
1.80	7.50 *	8.50	
1.90	7.50 *	8.50	
2.00	7.50 *	9.00	10.00 *
2.10	9.00	-	
2.20	9.00	-	
2.30	9.00	-	
2.40	9.00	10.50	
2.50	9.00	10.50	
3.00	10.00	-	
3.175	10.00	-	

On request Inch / Special dimensions / Shank 3.00mm

\* : Non stock items / Articles

**FEATURES & BENEFITS**

High hardness - 10000 HV

Extreme wear resistance

High heat conductance

Reduce friction - smooth chip flow

High dimensional accuracy-  
improved process capability

**RECOMMENDED PARAMETERS FOR ROUTING HIGH Tg WITH CERAMIC FILLERS ( Tg ≥ 170° C )**

Ød	N	f	F x-y	Fz (Pre Drilled)	Routing Depth	Depth in to Backup
mm	RPM	µm/rev	m/min	m/min	m/min	
1.10	48000	11.0	0.50	1.5	3.20	1.1
1.20	48000	11.0	0.50	1.5	3.20	1.1
1.30	48000	11.0	0.50	1.5	3.20	1.1
1.40	40000	11.0	0.50	1.5	3.20	1.1
1.50	38000	16.0	0.60	2.0	4.80	1.1
1.60	36000	20.0	0.70	2.0	4.80	1.1
1.70	36000	20.0	0.70	2.0	4.80	1.1
1.80	32000	26.0	0.80	2.0	4.80	1.1
1.90	32000	26.0	0.80	2.0	4.80	1.1
2.00	29000	35.0	1.00	2.0	4.80	1.5
2.10	29000	35.0	1.00	2.0	4.80	1.5
2.20	29000	35.0	1.00	2.0	4.80	1.5
2.30	24000	45.0	1.10	2.0	4.80	1.5
2.40	24000	45.0	1.10	2.0	4.80	1.5
2.50	22900	48.0	1.10	2.0	4.80	1.5
3.00	19000	52.0	1.00	2.0	4.80	1.5
3.175	18000	55.0	1.00	2.0	4.80	1.5
Ød Tool Diameter	N Spindle Speed	f Chip Load	F x-y Table Feed	Fz Z-Feed Rate		

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

**REMARKS**

- Entry point should be pre drilled.
- Backup board should be pre routed.
- Ensure vacuum pressure ≥ 80 mbar.

**PACKING**

10 tools per pack

50 tools per pack



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