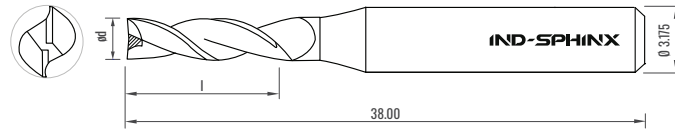


- IMS PCB Ceramic Layer
- FR4 Normal Tg
- FR4 High Tg >170
- FR4 Ceramic Fillers
- Halogen Free Laminates



**APPLICATION**

Routing of inner and outer contours of IMS PCB's e.g Aluminium, Copper PCBs

Depaneling of assembled PCBs

**FEATURES & BENEFITS**

High hardness - 10000 HV

Extreme wear resistance

High heat conductance

Reduce friction - smooth chip flow

High dimensional accuracy- improved process capability

Higher feed rates - increased productivity

**PACKING**

Single tool per pack

10 tools per pack

50 tools per pack

∅d DIAMETER	I FLUTE LENGTH	mm
0.30	2.00	-
0.40	2.00	-
0.50	2.00	-
0.60	2.00	-
0.80	2.00	-
0.90	2.00	-
1.00	3.00	-
1.20	3.00	-
1.30	3.00	-
1.40	3.00	-
1.50	3.00 *	5.00
1.60	5.00	-
1.80	5.00	-
1.90	5.00	-
2.00	4.00 *	6.00
2.10	-	6.00
2.40	4.00 *	6.00
2.50	-	6.00
3.00	4.00 *	6.00
3.175	-	6.00

On request Inch / Special dimensions / Shank 3.00mm

\* : Non stock items / Articles

**RECOMMENDED PARAMETERS FOR ROUTING ALUMINIUM IMS PCB**

∅d	N	f	F x-y	Fz (Pre Drilled)	Routing Depth	Depth in to Backup
mm	RPM	µm/rev	m/min	m/min	m/min	
0.30	165000	1.0	0.10	0.1	0.30	0.3
0.40	165000	1.0	0.10	0.2	0.40	0.3
0.50	165000	1.0	0.10	0.2	0.40	0.3
0.60	110000	2.0	0.20	0.5	0.60	0.3
0.80-0.90	83000	3.0	0.25	0.8	0.80	0.3
1.00	66000	5.0	0.30	0.8	1.00	0.4
1.20-1.30	55000	9.0	0.50	0.8	1.20	0.4
1.40	47000	11.0	0.50	0.8	1.40	0.4
1.50	44000	14.0	0.60	1.0	1.50	0.4
1.60	42000	17.0	0.70	1.0	1.60	0.4
1.80-1.90	37000	21.0	0.80	1.0	1.80	0.4
2.00-2.10	33000	30.0	1.00	1.2	2.00	0.5
2.40	28000	36.0	1.00	1.2	2.40	0.5
2.50	26000	38.0	1.00	1.2	2.50	0.5
3.00-3.175	22000	45.0	1.00	1.2	3.00	0.5
∅d 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**

- For Copper IMS PCB reduce RPM by ~ 15% and reduce feed rate by ~ 25%.
- Reduce feed rate 25% in case of depth routing.
- Use entry material ≥ 0.80mm thickness.
- Recommended to use MQL with coolants like Ethanol or oil emulsion for improved performance and dimensional control.
- Control collet runout and vibration.



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