

Parameter recommendation for depaneling of assembled IMS made of aluminium and copper

Tool recommendation: right twisted (up cut) version: **1322 / 1328** (aluminium)
1312 (copper)
left twisted (down cut) version: 1368

Cutting speed: $v = 210$ m/min for aluminium (180 m/min for copper)

D ₁ Router diameter [mm]	n Spindle speed [rpm]	f _{xy} Chip load [µm/1]	F _{xy} Feed rate		F _z Infeed	
			[mm/s]	[m/min]	with pre drilling [m/min]	with 1328 [m/min]
1.5	44000	7	5	0.3	1.0	0.3
1.6	42000	9	7	0.4	1.0	0.3
1.8	37000	11	7	0.4	1.0	0.4
2.0	33000	15	8	0.5	1.0	0.5
2.4	28000	18	8	0.5	1.0	0.5
3.0	22000	22	8	0.5	1.0	0.5

General recommendations:

- ⇒ For IMS ≤1.60 mm thickness.
- ⇒ With ceramic dielectric or copper, reduce feed rate by approx. 25% and spindle speed by approx. 15%.
- ⇒ End mill in left twisted version (down cut) is preferred when using conical pins as tool holder (without clamping) and spindle position above IMS.
- ⇒ Clean and maintain collet and extraction system according to manufacturer's specification.

Router specifications:

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Overall length: 38.2 -0.3mm
 Flute length: L ±0.2 mm
 Working length: L -2.0 mm
 Nominal diameter: D₁ ±0.015 mm
 Shank diameter: D = 3.175 -0.001 / -0.007 mm

