

Topic: Influences on routing tolerance

Example for Router-Ø 2.0 mm

	worst case	optimized
Tolerance of router Ø: (GCT supplies router with reduced Ø tolerance on demand)	30 µm	30 µm (< 20 µm)
Wear at router Ø: (Depends on router type, tool life, parameter, material)	50 µm	< 10 µm
Bending / deviation of router: (Depends on router Ø, flute length, material, parameter and stack height)	70 µm	40 µm
Routing machine tolerance: (Depends on spindle speed, clamping system, run-out and maintenance of collet, vacuum at the pressure foot)	30 µm	20 µm
Total tolerance:	180 µm	< 100 µm

⇒ GCT Recommendations:

- ⇒ Diamond coated router
- ⇒ Router with reduced Ø tolerance (for tolerances $\leq \pm 50 \mu\text{m}$)
- ⇒ Router with spiral cut geometry
- ⇒ Router with optimized flute length
- ⇒ Reduce router tool life and feed rate
- ⇒ Routing machine with one or max 2 spindles (for tolerances $\leq \pm 50 \mu\text{m}$)
- ⇒ Vacuum at the pressure foot of min 50 mbar (ideal 75 mbar)

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