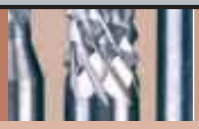
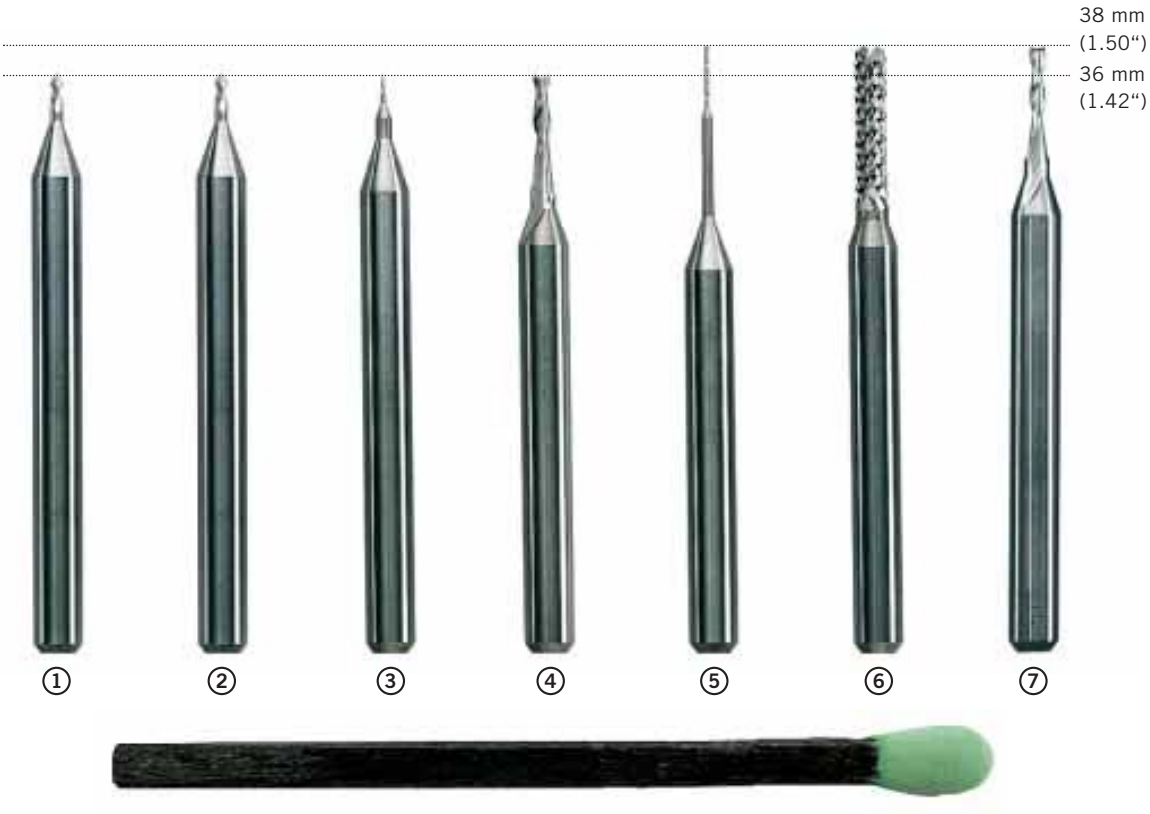


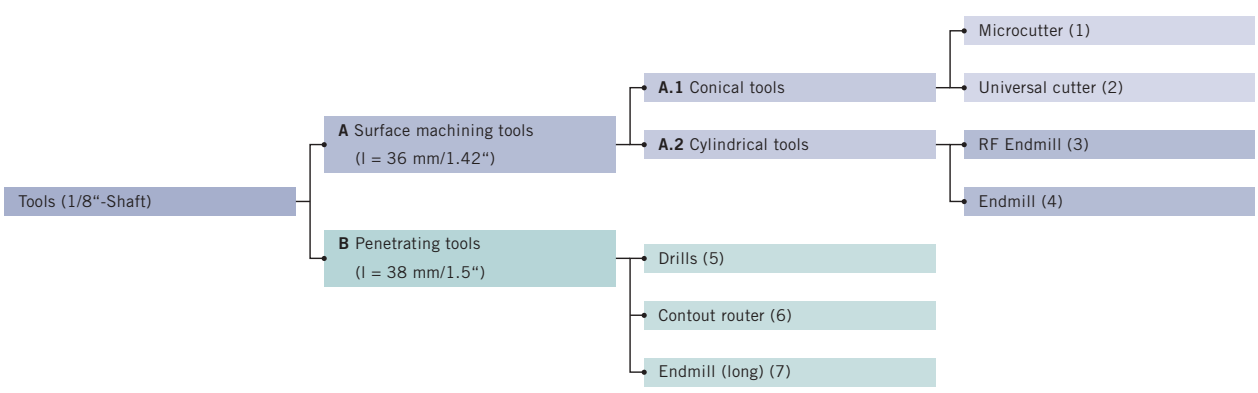
Tools

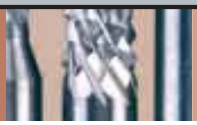
Quality and precision – LPKF tools

LPKF's development to satisfy the extreme precision and performance requirements of current state of the art circuit boards has produced a large range of high performance precision cutting tools. These tools are custom designed for LPKF and made of 100 % top quality carbide resulting in significantly longer tool life, precise cuts, and diminished drill flux. The proprietary designs are accomplished with extensive testing and design reconfiguration until the highest quality results are met. LPKF's leading commitment is an ongoing research and development process to continually suit the user demands and approaching technologies.

For ease of use and to minimize the set-up time, LPKF tools come in two different lengths: 36 mm (1.42“) for tools working on the surface (milling bits and endmills) and 38 mm (1.5“) for tools that work through the material (drill and router bits).



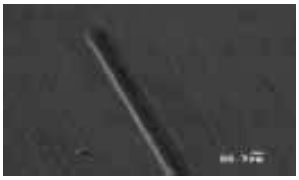


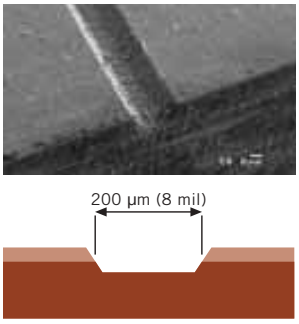
A - Engraving tools (36 mm [1.42“] length)

A.1 Conical Tools

① **Micro cutter**
- For copper thickness up to 18 µm (1/2 oz.)
- Minimum insulation space: 100 µm (4 mil) (min. 60,000 rpm required)

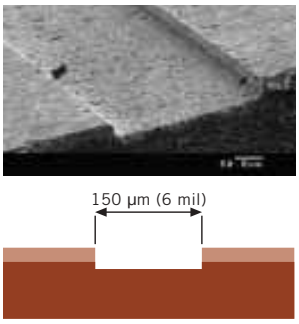


② **Universal cutter**
- For milling insulation on any type of base material
- Minimum insulation space: 200 µm (8 mil)

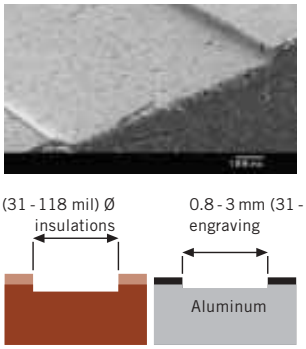


A.2 Cylindrical tools

③ **Endmill (RF)**
- For RF circuit outlines: 150 µm (6 mil), 250 µm (10 mil) or 400 µm (15.7 mil) diameter (min. 60,000 rpm required)
- Minimal substrate removal
- Straight side walls



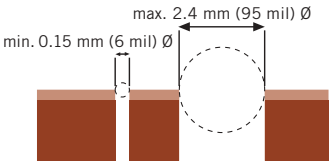
④ **Endmill**
- For rub-outs and wide insulations
- Engraving of aluminum front panels
- 0.8 mm (31 mil), 1 mm (39 mil), 2 mm (79 mil), 3 mm (118 mil) diameter




B - Drilling/routing tools (38 mm [1.5“] length)

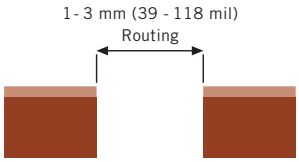
⑤ Spiral drill

- To drill circuit boards and other materials
- 0.15 mm (6 mil) to 3 mm (118 mil)
- Diameters bigger than 2.4 mm (96 mil) are automatically routed
- 2.95 mm (116 mil) and 3 mm (118 mil) to drill registration pin holes



⑥ Contour router

- Routes inner and outer board contours
- Routes large holes without size limitation
- 1 mm (39 mil), 2 mm (79 mil), 3 mm (118 mil) diameter



⑦ Endmill (long)

- For cutting out aluminum front panels and to mill clean contours in soft RF substrates
- Also to mill pockets in brass and aluminum backed substrates and to mill enclosures
- 1 mm - 2 mm (39 mil - 79 mil) diameter