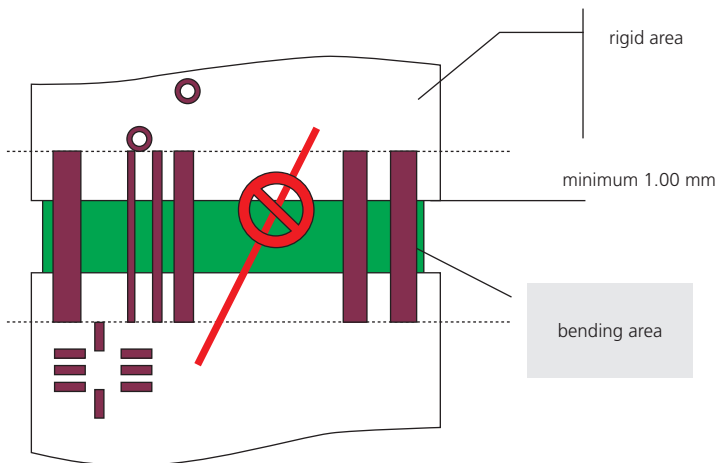


SEMIFLEX TECHNOLOGY – THE PCB THAT CAN BE BENT – WITHOUT FLEX MATERIALS

Different requirements apply to the Semi-Flex compared with standard PCBs or Starrflex.

DESIGN AND ENGINEERING INSTRUCTIONS AND TECHNICAL OPTIONS

- Number of layers of the bending area: only one layer possible.
- The conductive pattern of the bending area has to be placed on the outer radius area.
- Conductors and possible shielding conductors have to run radially in relation to the bending radius as otherwise the conductors might break.
- All conductors have to extend at least 1.00 mm into the rigid part.
- When placing mounting bores in the rigid part, a minimum distance of 1.00 mm to the bending area has to be kept. The same applies to SMD pads.
- The width of the conductors should be as large as possible in the bending area in order to ensure stability, preferably > 0.35 mm.



- The rigid areas of the PCB are produced with the standard solder resist (Imagecure XV 501 T). The bending area is treated with a special flexible lacquer from the Imagecure product range. The standard tolerances apply to both lacquers.

Please note: The flexible lacquer has to overlap with the lacquer in the rigid area, so that there are no gaps between the two lacquer systems. If the customer has no different requirements, we apply 0.45 mm at each side.

THE OPTIONS

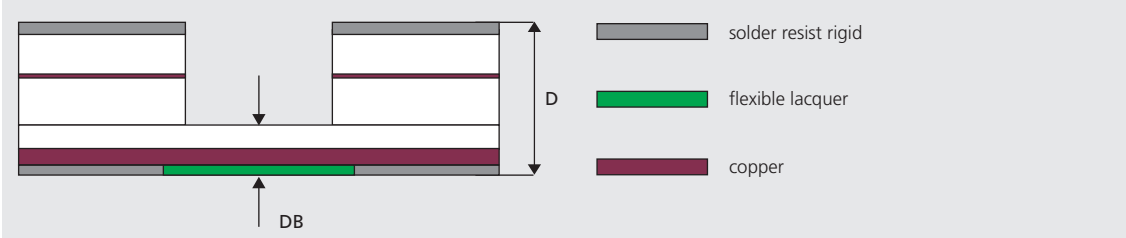
Basic materials:	FR 4 – others on request and after testing
Basic copper thicknesses:	18 µm and 35 µm The lower the base copper, the better the bending properties.
Quantity of layers including the bending layer:	1 – 12
PCB thickness (D):	1.00 – 2.00 mm
Thickness of the bending area including solder resist and copper (DB):	0.23 mm +/- 0.05 mm
Length of the bending area (L):	depending on radius and angle

$$\text{length } L = \frac{\text{bending radius} \times 3.14 \text{ mm} \times \text{bending angle}}{180^\circ}$$

Bending radius minimum 5.00 mm!

The length then has to be rounded up and has to be to at least 10.00 mm!

Width of the bending area (B): minimum 8.00 mm – the wider the better



- solder resist rigid
- flexible lacquer
- copper

BENDING OPTIONS

When bending, always use a bending device. Otherwise there is the risk of a fracture!

