

Recommendation: Baking of Flexible- and Rigid-flexible Printed Circuits before Assembly

The German Central Association of Electronics and Electronic's Industry „ZVEI“ released guidelines for the baking of flexible and rigid-flexible printed circuits. LeitOn highly recommends following these guidelines.

Standard FR4 PCBs accumulate around 1% of water when stored in humid environments. However, when Polyimid films of flexible or rigid-flexible boards are used, such materials accumulate up to 3% of water. This is especially relevant during months with elevated levels of humidity, warm temperatures and room climates above 50 % rel. humidity.

During the soldering process excess humidity may abruptly discharge from the boards. Such tensions can lead to delamination, plated holes may break. Therefore, we recommend the following guidelines according to „ZVEI“:

Baking immediately prior to Assembly

Baking in circulation-, convection- or vacuum oven

Put boards separated from each other into oven (do not stack them). If you use racks, position them vertical and consider some distance.

Baking Temperature: 130 - 150°C

Baking Duration: ≥ 120 min

For thermo-sensitive surface finishes (e.g. immersion tin) we recommend a vacuum oven, because at 50mbar you may work with 20°C lower temperatures for around 60minutes less.

Immediate Assembly/Soldering

Baked boards must be **assembled and soldered within 8 hours!**

Short time storage at 30 % (max. 50 %) rel. humidity.

Until further soldering or repairs, store in a dry environment.

If washing was required, baking according to above parameters must be repeated.

All recommendations are for reference only. Variations may be plausible and may be explored. In any case, when repair-soldering handle with extreme care.

If you have any questions please do not hesitate to contact us any time.

Ihr LeitOn Team