

Recommendation for baking of Rigid PCB

This recommendation is for baking rigid PCB's, constructed using epoxy resin (FR4 and FR5).

Epoxy resin is not so hygroscopic, and normally there is no 'automatic' need for baking. However, if the boards are old, the packages have been broken or whenever there is a suspect of moisture within the boards, it can be useful to bake prior to assembly/soldering.

Below is a recommendation for baking for different surface treatments, and it is important to note that baking should be kept to a minimum to prevent excessive oxidation and/or intermetallic growth.

HASL, Lead-free HASL and ENIG

2 hours at 120° C

Dwell or hold time between baking and soldering is dependant upon the storage conditions. Ideally it should be kept to a minimum, however it is worth noting that at 75% relative humidity, the recommended maximum hold time is 24 hours.

Oven conditions

Baking should take place in clean oven to prevent any form of contamination during the baking process. The boards should also be placed in the oven in such a way that the air can circulate freely around the boards during the baking time.

Solderability concerns

All baking can be considered as advanced ageing and therefore may affect the solderability. Therefore the given and temperature above must be seen only as recommendations and the customer shall take responsibility to approve the process.

Immersion Tin, Immersion Silver and OSP

Since all of these surface treatments are very sensitive finishes, normal baking is **not** recommended. If needed, do trials at a lower temperature and secure the performance with solderability tests.

Baking in vacuum oven (below 50 mbar) may be performed at lowered temperatures and reduced times. In all such cases the customer have there own responsibility to approve their process.