

Technical Bulletin August

Are there IPC standards relating to coating?

Relevant IPC standards are CC-830 (material) and A-610 (workmanship). IPC qualifications are self-regulating, i.e. it is up to the supplier to claim compliance and up to the customer to prove otherwise. MIL-I-46058C is an old military standard, from which the IPC committee developed CC-830.

This Mil standard requires independent testing by a certified laboratory and ongoing retention testing on an annual basis (SCH can supply a recent list). You will notice that there are many fewer products on the MIL-I list than there are products claiming CC-830 compliance. Humiseal *do* have Mil qualified products.



What do we provide?

SCH Technologies can offer conformal coating services, equipment, consultation and Humiseals great range of conformal coating materials. We will be happy to answer any of your questions and we've got the experience to solve any of your conformal coating headaches. Don't hesitate to contact us with the details on the following page and we'll help to ease the pain of conformal coating.



If my bare boards were to be made with an Immersion Tin finish would this make a difference to the way the coating material adhered to the board?

Immersion tin is a solder finish on the laminate (bare) board. Other typical finishes include HASL (Hot Air Solder Level), immersion silver and Nickel-Gold. The bare board manufacture is a completely separate process to assembly, with many chemical stages. However, what is crucial is that the bare PCBs once finished are supplied clean to the customer before population. If this is the case then the only contamination you need to worry about with conformal coating is the assembly process chemistries.

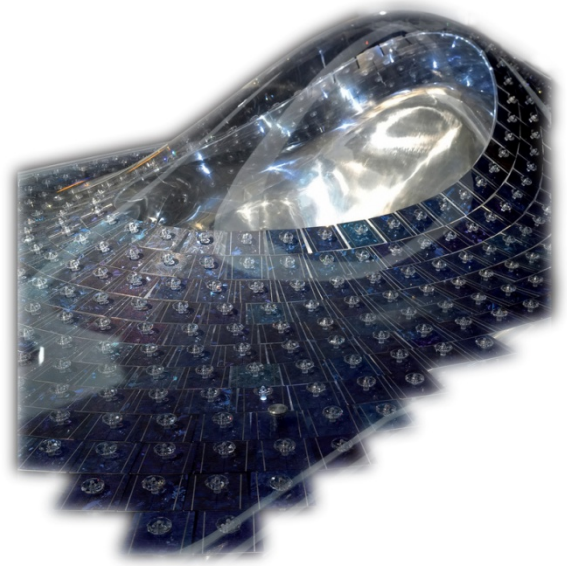
What methods can I use for conformal coating removal?

Stripping of unwanted conformal coating from a PCB can be a simple process or a very messy difficult job. It depends on what coating you need to remove, where the coating is and the type of components on the board.

The simplest coatings to remove are the acrylics. They have little chemical resistance and therefore are the easiest to remove with stripping fluids like Humiseal's 1080. These coatings generally re-dissolve back into solution so a combination of soaking and gentle mechanical abrasion works well.

The simplest process for local area rework around a device for instance is a cotton bud soaked in stripping fluid and then rubbed gently across the area to be removed. This will dissolve the coating. If the coating is fresh, it comes off in a matter of seconds whereas if the coating is old, having been coated many years ago, then it could take a little longer and patience is required!

If the area to be removed is larger or the whole board is to be stripped then submersion in a tank of correctly selected stripping fluid and abrasion using a soft bristle brush will also dissolve the coatings.



A word of warning must be given here. First, when submerging in a stripping material check there are no compatibility issues with the PCB. Stripping fluid could occasionally attack components and or writing on the boards although for acrylic coatings the 1080 stripper is not too aggressive.

The other issue that can be a major headache with full stripping of a board is that because the coating re-dissolves into the stripper, there will now be coating residue all over the PCB even where you didn't want it. This can be a real problem with certain components such as low profile connectors! To remove these residues you will need several tanks of stripping fluid and the PCB will need to be fully rinsed in each, gradually flushing the residue out of the wrong areas. Once completed the PCB should then be cleaned in a cleaning system to remove any unwanted ionics.

These two processes also work for coatings such as polyurethanes and silicones although since they have more chemical resistance they are tougher to remove. Correct stripping solution selection is critical and this is why Humiseal have several stripping products including 1063 for polyurethanes.

