

## Stripping of Humiseal acrylic conformal coating

**Date of test:** 29/07/05

### 1- Method

The aim of this work is to compare the effect of Humiseal stripper 1080 and 1080A on Humiseal 1B31 and 1B73 conformal coating, and to determine the stripping time by immersion.

FR4 boards substrate have been hand sprayed in order to achieve a 20 microns dry film thickness.

Boards have been half immersed in a beaker containing strippers. The immersion time was recorded. After a complete dissolution of the film, boards were taken out of the stripper solutions and left at ambient to dry before visual inspection.

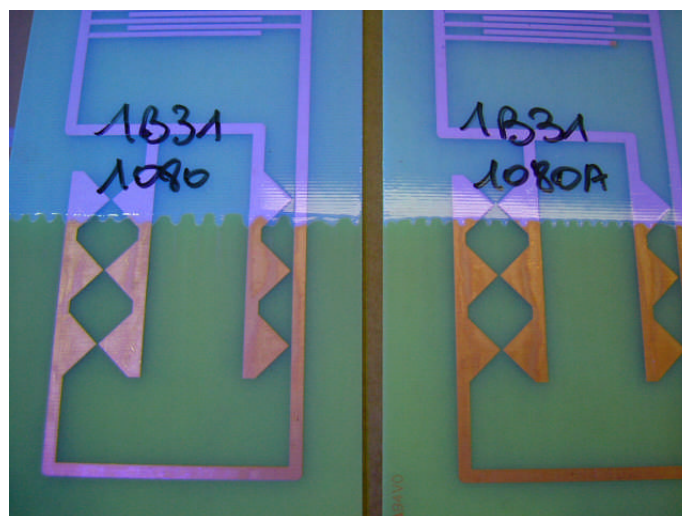
Qualitative observations were correlated with quantitative values shown below.

Score	Appearance after stripping
1	None, board clear
2	Slight residues remaining
3	High residues remaining

### 2- Results

#### 2-1- Humiseal 1B31 coating after 10 minutes immersion in strippers

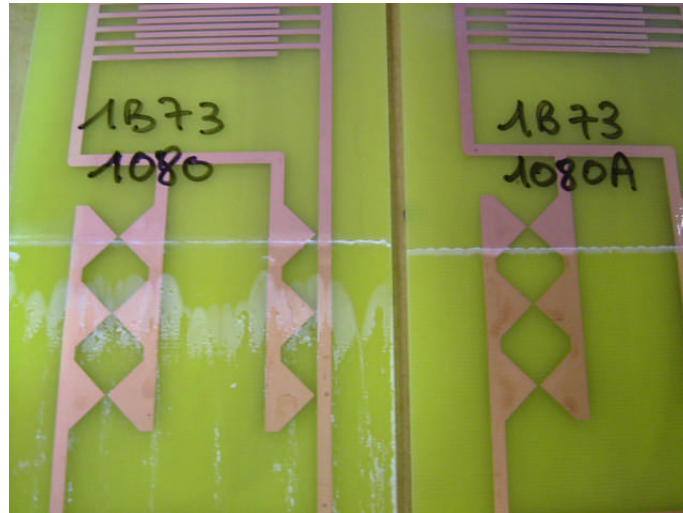
Cure conditions	Stripper 1080	Stripper 1080A
Control	1	1
30 min at 80C	1	1



Both strippers 1080 and 1080A remove Humiseal 1B31 conformal coating without any trace of residues in 10 minutes. No significant difference between them.

## 2-2- Humiseal 1B73 coating after 10 and 20 minutes immersion in strippers

Cure conditions	Stripper 1080		Stripper 1080A	
	10 min	20 min	10 min	20 min
Control	3	2	2	1
2 hours at 80C	2	2	3	1



Stripper 1080 removes Humiseal 1B73 after 20 minutes immersion but leaves a white residue comparing to stripper 1080A. An extra rinsing stage is needed to remove all the coating.

### Discussion

- Humiseal 1B31 is quicker to repair (10 minutes) than Humiseal 1B73 (20 minutes) conformal coating.
- With 1B31, both strippers have the same effect on dissolution of the film, no residues left.
- With 1B73, stripper 1080A does not leave any white residues whereas it does with stripper 1080.

### Conclusion

Strippers 1080 and 1080A are both designed to remove acrylic conformal coatings. Stripper 1080 is sufficient to remove Humiseal 1B31 conformal coating within 10 minutes.

Stripper 1080A, stronger than 1080, is recommended to dissolve Humiseal 1B73 conformal coating in order to lower the amount of white residues after 20 minutes immersion.

N.B: The required time to strip a conformal coating is dependant on the film thickness and the age of the coating. Those data are the results of our own work at Concoat Ltd and are applicable on bare flat board. A coating on a populated PCB may take longer to dissolve because of the geometry and the layout of the components. However, this work can be used as a comparative study between strippers on coatings.