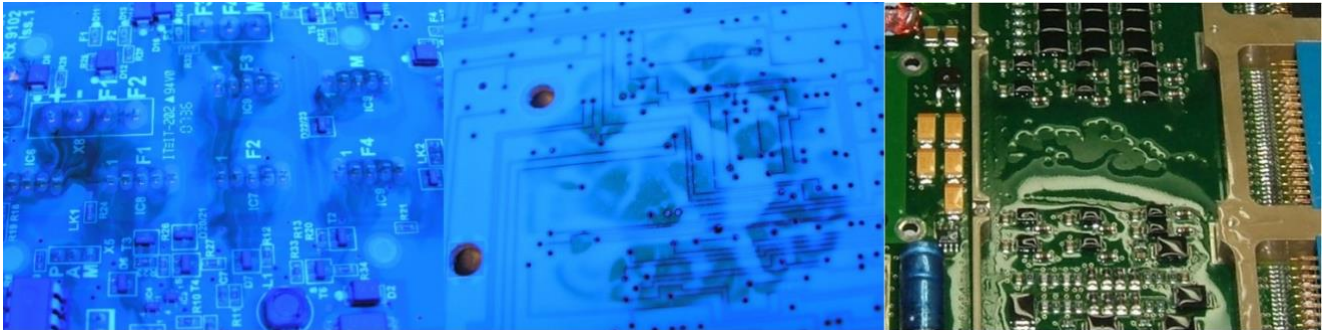


# Conformal Coating Defect

## De-wetting

### Summary

De-wetting in conformal coating occurs when the wet film refuses to wet the surface evenly, leaving bare patches or “islands.” Preventing de-wetting is critical to maintain uniform protection and PCB reliability.



### Definitions

What is De-wetting in Conformal Coating?

- Definition: The coating refuses to wet the surface uniformly, producing holes, craters, or “islands.”
- Main issue: Bare areas provide pathways for moisture/contaminants, undermining insulation resistance and long-term protection.

### Root Causes

- Low surface energy / contamination (most common).
- Board manufacture residues — silicone surfactants from solder mask, HASL rinse contamination.
- Component residues — mould-release agents and process oils.
- Silicone oils/adhesives transferred during handling and masking.
- Soldering residues and flux activators (even “no-clean” can interfere).
- Contaminated cleaning baths or poor rinsing leaving films that repel coating.
- Operator handling — fingerprints, hand creams, FOD.

### Prevention / Best Practices

- Control incoming cleanliness — specify low-residue laminates, masks, and components.
- Validated cleaning — qualified solvent/aqueous cycles with proper rinsing and dry-out.
- Surface energy checks — routine dyne pens/contact angle; set accept/reject criteria.
- Housekeeping — segregate silicones, use clean gloves, manage FOD and handling.
- Local rework — strip affected area, re-clean, and re-apply to spec.

## Troubleshooting & Diagnosis

- Surface energy testing — dyne level / contact angle before coating.
- Residue analysis — ionic contamination tests and spot solvent swabs for non-ionic films.
- Bath audits — verify cleaner concentration, rinse quality, and bath life.
- Material segregation — check for silicone sources (sealants, sprays, tape adhesives).
- Witness coupons — run coated coupons alongside builds to isolate line issues.

## Related Defects (Links)






- [Pinholes, Bubbles & Foam](#)
- [Orange Peel](#)
- [De-wetting](#)
- [Delamination](#)
- [Cracking](#)
- [Corrosion & Ionic Contamination](#)
- [Capillary / Wicking Around Components](#)

## Training & Services (SCH)

SCH offers conformal coating training that goes beyond theory—recognising and preventing pinholes, bubbles, foam, orange peel, de-wetting, delamination, and cracking. We cover process analysis, troubleshooting, materials, and application methods.

## Why Choose SCH Services?

Partnering with SCH Services means more than just outsourcing — you gain a complete, integrated platform for Conformal Coating, Parylene & ProShieldESD Solutions, alongside equipment, materials, and training, all backed by decades of hands-on expertise.

-  25+ Years of Expertise – Specialists in coating technologies trusted worldwide.
-  End-to-End Support – Guidance on coating selection, masking, inspection, and ProShieldESD integration.
-  Scalable Solutions – From prototype to high-volume production.
-  Global Reach – Support across Europe, North America, and Asia.
-  Proven Reliability – Built on quality, consistency, and customer satisfaction.