UK / EU Conformal Coating Removal – Quick Guide

Hybrid Operator & Engineering Reference

Produced by SCH Services in technical collaboration with Vaniman. This guide provides practical decision support for identifying coatings, selecting removal methods, controlling risk, and validating rework quality in UK and European electronics environments.

1. Identify the Coating

Use behaviour-based identification when coating type is unknown. Do not rely solely on supplier memory or assumptions.

Observe and record: Hardness / penetration response Transparency / appearance IPA reaction (avoid immersion) Thermal behaviour (controlled local test only) Peel / slit response Thickness and build cues Where available, review documentation first. If uncertainty remains, perform controlled tests only in non-critical areas in line with IPC-7711 guidance.

2. Select the Removal Method

Match coating chemistry and risk profile to the removal method.

Acrylics: Often tolerate controlled solvent softening with mechanical assistance.
Epoxies and Parylene: Typically chemically resistant; micro-abrasion is usually the most controllable route.
Silicones and urethanes: Behaviour varies widely and must be validated.

Consider component sensitivity, board value, boundary definition, contamination risk, and recoat compatibility.

3. Control the Process

Lock and document: Abrasive media type and particle size Air pressure Nozzle diameter Stand-off distance Angle of attack Operator technique Masking discipline ESD controls Start with low energy settings and increase only as required. Treat micro-abrasion as a controlled manufacturing process.

4. Verify Removal Quality

Verify edge definition, solder mask integrity, absence of copper damage, cleanliness, and component marking integrity using magnification and UV inspection where applicable.

5. Rework and Recoat

After removal: perform repair, feather edges, clean surfaces, reapply coating, verify thickness and cure, and document results for traceability.

6. Safety and Compliance

Maintain ESD control, extraction, PPE, media housekeeping and waste management. Validate against IPC-7711/7721, customer specifications and site risk assessments.

Disclaimer

This guide provides general technical guidance only. Final process selection, safety compliance, validation and product acceptance remain the responsibility of the user.