



Technical Data Sheet of KS450



Materials for High-Tech Manufacturing

A. Introduction


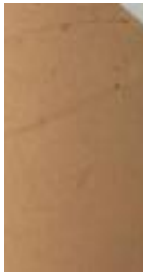


PhiChem KS450 Conformal Coating is a clear, low viscosity, quick drying fluoropolymer-based coating that uses a fluorinated solvent. Upon coating, it dries to a thin, transparent film with hydrophobic and oleophobic properties. KS450 provides good moisture and corrosion protection to printed circuit boards and electronic components, It is reworkable and repairable. KS450 is low in toxicity, non-ozone depleting and RoHS compliant.

B. Typical Physical Properties:

| Property | Coating Solution |
|------------------|--|
| Appearance | Transparent |
| Solids Content | 5% |
| Solvent | Environmental Friendly Fluorinated Solvent |
| Specific Gravity | 1.44 |
| Boiling Point | 76°C |
| Flash Point | --- |

| Property | Fluoropolymer Coating |
|---------------------------------|---|
| Appearance | Transparent, Colorless |
| Coating Thickness | ~500nm (can be adjusted, depending on application method) |
| Contact Angle (Water) | 110° |
| Contact Angle (Oil) | 65° |
| Shelf Life | 12 months |
| Rework / Repair Characteristics | Reworkable with fluorinated solvent |
| Dielectric Constant | --- |
| Dissipation Factor | --- |
| Dielectric Breakdown Strength | --- |

C. Basic Performance:

| Test | Testing Condition | Untreated copper foil | KS400 Series | Sample A (fluorinated coating) | Sample B (Non-fluorinated coating) |
|--|---|---|---|---|---|
| Contact Angle (°) | Water | 65° | 110° | 106° | 96° |
| Water Vapor Permeability (g/m ² .day) | 5% KS400 solution ,40°C, 90% RH, static for 24h | 4000 | 320 | 300 | 2400 |
| Corrosion Protection | 5% NaCl, 65°C, 7 days |  |  |  |  |
| Drying Time | Room Temperature | | 1 min | 1 min | 80C/30 min |

D. Features

- (1) Easy and flexible coating processing.
- (2) Provides a low surface tension (11~12 mN/m) coating on a variety of substrates.
- (3) Dries quickly at room temperature to a thin, transparent film with thickness of around 500nm.
- (4) Can be applied to a variety of substrate materials, such as plastic, metal, glass, etc.
- (5) Provides excellent hydrophobic, oleophobic, anti-moisture, anti-sticking and corrosion protection properties.

E. Suggested Application

1. To provide excellent water-protection, moisture-protection and corrosion protection to printed circuit boards and their electronic components.
2. To serve as an anti-migration coating for lubricated electronic parts of the spindle motors or precision instruments (such as watches, cameras etc.).
3. To provide sealing treatment to precision parts.

4. To serve as an anti-moisture coating for protecting LED devices, capacitors, sensors etc.
5. To provide good chemical protection against salt water, electrolyte and corrosive gas environments

F. Application Method

Can be dipped, sprayed or selectively deposited. Surface of the substrates should be cleaned and dried before treatment. Masking is not needed for connector parts — but evaluation of the need for masking is recommended.

Caution :

- The solvent evaporates quickly, so use with good room ventilation.
- Wear PPE when treating this product.
- May cause irritation of skin and eyes if not used with PPE
- If contacting eyes or skin, immediately flush with plenty of water and seek medical help.
- Wash your hands thoroughly after handling the product.

G. Storage

Store in a cool, shaded area away from direct sunlight and heat sources.
Containers should be well sealed, close the lid securely after use.

H. Package :

4kg containers