Technical Data Sheet of KS401

PhiChem® • 上海飞凯

Materials for High-Tech Manufacturing

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A. Introduction

PhiChem KS401 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. KS401 provides good moisture and corrosion protection to printed circuit boards and electronic components, It is reworkable and repairable. KS401 is low in toxicity, non-ozone depleting and RoHS compliant.

B. Typical Physical Properties:

Property	**Coating Solution**
Appearance	Transparent
Solids Content	0.5%
Solvent	Environmental Friendly Fluorinated Solvent
Specific Gravity	1.43
Boiling Point	76℃
Flash Point	---

Property	**Fluoropolymer Coating**
Appearance	Transparent, Colorless
Coating Thickness	~50nm (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/m2.day)	5% KS400 solution ,40℃, 90% RH, static for 24h	4000	320	300	2400
Corrosion Protection	5% NaCl，65℃，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 50nm.

（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 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