

HUMISEAL 1R32A-2 Acrylic Coating

System Description

A fast air drying, single component, acrylic coating with good solderability and excellent flexibility. Fluoresces under ultraviolet light and contains an adhesion promoting additive to ensure excellent adhesion over no-clean process residues. Meets the requirements of IPC CC-830B, Class B Hydrolytically stable and U.L. recognized under the component program at Underwriters Laboratory; File No. E105698. UL746E (UL94 V0)

Properties of Liquid HumiSeal

Density, (g/cm ³) per ASTM, Meth. D1475	0.91 ± 0.3 35
Solids Content, % by weight per Fed-Std-141, Meth.4044	± 3
Viscosity, centipoise per Fed-Std-141, Meth. 4287	220 ± 30 cps.
Flashpoint, 0C per ASTM, Meth. D56	7
Drying Time to Handle per Fed-Std-141, Meth.4061	10 minutes
Recommended Curing Conditions	24 hrs @ rm. temp or 30 min. @ 77°C
Time Required to Reach Optimum Properties	24 hours
Thinner, if needed (dipping & brushing)	Thinner 503
(spraying)	Thinner 521
Pot Life at Room Temperature	12 months
Shelf Life at Room Temperature	12 months

Properties of Cured HumiSeal

Thermal Properties	-65C to 125C
Continuous Use Operating Range	Good
Thermal Shock	Good
Solderability	
Physical Properties	
Clarity	Transparent
Flexibility	Excellent
Adhesion,	Excellent
Flammability	Self-Extinguishing
Weather Resistance	Very Good
Electrical Properties	>7,500
Dielectric Withstand Voltage, volts per MIL-I-46058C	2.5
Dielectric Constant, at 1MHz and 25°C, per ASTM-D150-65T	0.01
Dissipation Factor, at 1MHz and 25°C, per ASTM-D150-65T	800 x 10 ⁶
Insulation Resistance, megohms, per MIL-I-46058C	60,000
Moisture Resistance, megohms, per MIL-I-46058C	
Chemical Properties	Acrylic
Main Constituent	Excellent
Fungus Resistance	Good
Resistance to Chemicals	

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APPLICATION

Cleanliness of the substrate is of extreme importance for the successful application of a conformal coating. Surfaces must be free of moisture, dirt, wax, grease and all other contaminants. Contamination under the coating will cause problems which may lead to assembly failures.

HumiSeal coatings may be applied by brush, dip or spray.

Dipping

Depending on the complexity, density and configuration of components on the assembly, it may be necessary to reduce the viscosity of HumiSeal 1R32A-2 with HumiSeal Thinner 503 in order to obtain a uniform film. Once optimum viscosity is determined, a controlled rate of immersion and withdrawal (2 to 6" per minute) will further insure even deposition of the coating and ultimately a uniform film. During the application, evaporation of solvent causes an increase in viscosity which should be adjusted by adding small amounts of Thinner 503. Viscosity in the dip tank should be regularly checked by the use of a simple measuring device such as a Zahn or Ford viscosity cup.

Spraying

HumiSeal Type 1R32A-2 can be sprayed using conventional spraying equipment. As a rule, the addition of Thinner 521 is necessary to assure a uniform spray pattern resulting in pinhole free film. The amount of thinner and spray pressure will depend on the specific type of spray equipment used. The spraying should be done under an exhaust hood so that the vapor and mist are carried away from the operator. The recommended ratio of HumiSeal Type 1R32A-2 to HumiSeal Thinner 521 is 1 to 1 by volume. The quantities may be adjusted to obtain a uniform coating.

Brushing

HumiSeal Type 1R32A-2 may be brushed with a small addition of HumiSeal Thinner 503. Uniformity of the film depends on component density and operator's technique.

Storage

HumiSeal Type 1R32A-2 should be stored at room temperature, away from excessive heat, in tightly closed containers. HumiSeal products may be stored at temperatures of 5-25C Avoid direct sunlight. Prior to use, allow the product to equilibrate for 24 hours at room temperature.

Caution

The solvents in Type 1R32A-2 are flammable. Do not use in presence of open flame or sparks. Avoid inhalation of vapors or spray. Use only in well-ventilated areas. Avoid contact with skin and eyes. If contact occurs, wash with soap and water. If swallowed, call physician immediately.

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