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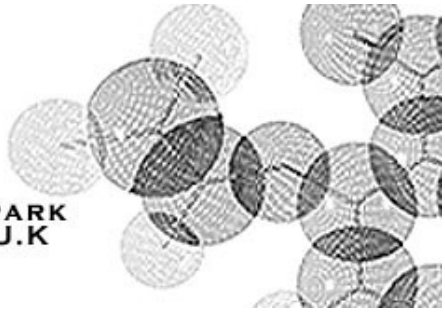

HumiSeal 1B15 Acrylic Coating

System Description

An air drying, single component, acrylic base system suitable for general purpose coating of printed circuit assemblies. The cured coating is readily repairable. Also available in spray cans.

Properties of Liquid HumiSeal

Density, (g/cm^3) per ASTM, Meth. D1475	0.90 ± 0.02
Solids Content, % by weight per Fed-Std-141, Meth.4044	35 ± 2
Viscosity, centipoise per Fed-Std--141, Meth. 4287	470 ± 20
Flashpoint, ^0C (^0F) per ASTM, Meth. D56	-1 (30)
VOC (grams / liter)	592
Drying Time to Handle per Fed-Std-141, Meth.4061	10 minutes
Recommended Curing Conditions	24 hrs @ rm. temp or 30 min.@ 76°C (170^0F)
Time Required to Reach Optimum Properties	7 days
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	
Continuous Use Operating Range ^0C(^0F)	-65^0C (-85^0F) to $+125^0C$ (257^0F)
Thermal Shock, per MIL-I-46058C	Passes
Solderability	Good
Coefficient of Thermal Expansion - DMA	77ppm / ^0C
Glass Transition Temperature - TMA	15^0C
Young's Modulus - DMA	10074psi
Physical Properties	
Clarity	Transparent
Build per Dip, mils, per ASTM,Meth.D823	2
Flexibility, per MIL-I-46058C	Fair
Adhesion, per ASTM, Meth. D2197	Excellent
Flammability, per ASTM, Meth. D635	Self-Extinguishing
Weather Resistance	Very Good
Electrical Properties	
Dielectric Withstand Voltage, volts per MIL-I-46058C	>1,500
Dielectric Breakdown Voltage, volts, per ASTM, Meth. D149	8000
Dielectric Constant, at 1MHz and 25^0C, per ASTM-D150-65T	2.03
Dissipation Factor, at 1MHz and 25^0C, per ASTM-D150-65T	0.01
Insulation Resistance, ohms, per MIL-I-46058C	350×10^{12}
Moisture Resistance, ohms, per MIL-I-46058C	40×10^9
Chemical Properties	
Main Constituent	Acrylic
Fungus Resistance, per ASTM-G21	Passes
Resistance to Chemicals	Fair

Values are not intended for use in preparation of specifications.

060800R2.23.01

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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 1B15 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 521. 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 1B15 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 vapour and mist are carried away from the operator. The recommended ratio of HumiSeal Type 1B15 to HumiSeal Thinner 521 is 1 to 1 by volume, as a starting point. The quantities may be adjusted to obtain a uniform coating.

Brushing
HumiSeal Type 1B15 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 1B15 should be stored at room temperature, away from excessive heat, in tightly closed containers. HumiSeal products may be stored at temperatures of -18°-38°C (0-100°F). Avoid direct sunlight. Prior to use, allow the product to equilibrate for 24 hours at 18-32°C (65-90°F).

Caution
Liquid HumiSeal coatings are flammable. Do not use in presence of open flame or sparks. Avoid inhalation of vapours 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. Refer to MSDS before use.

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