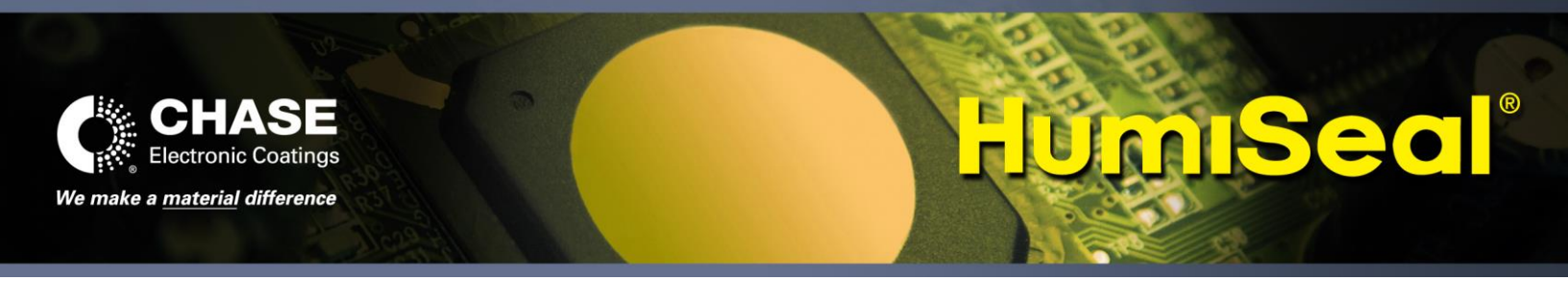

HumiSeal® 1B66S Acrylic Conformal Coating Technical Data Sheet

HumiSeal® 1B66S is a fast drying, single component, acrylic conformal coating that provides improved adhesion, excellent moisture and environmental protection for printed circuit assemblies. HumiSeal® 1B66S demonstrates outstanding flexibility and is easily repaired. HumiSeal® 1B66S coating is RoHS Directive 2011/65/EC compliant.

Properties of HumiSeal® 1B66S

Density, per ASTM D1475	0.91 ± 0.02 g/cm³
Solids Content, % by weight per Fed-Std-141, Meth. 4044	35 ± 3 %
Viscosity, per Fed-Std-141, Meth. 4287	200 ± 15 centipoise
VOC	592 grams/litre
Drying Time to Handle per Fed-Std-141, Meth. 4061	10 minutes
Recommended Coating Thickness	25 - 75 microns
Recommended Curing Conditions	24 hrs @ RT or 30 min @ 76°C
Time Required to Reach Optimum Properties	7 days
Recommended Thinner (dipping & brushing)	HumiSeal® Thinner 503
Recommended Thinner (spraying)	HumiSeal® Thinner 521, 521EU
Recommended Stripper	HumiSeal® Stripper 1080, 1080EU
Shelf Life at Room Temperature, DOM	24 months
Thermal Shock, 50 cycles per MIL-I-46058C	-65°C to 125°C
Coefficient of Thermal Expansion - TMA	170 ppm/°C below T_g 340 ppm/°C above T_g
Glass Transition Temperature - DSC	14°C
Modulus - DMA	2000 MPa @ -40°C 1050 MPa @ 20°C 8.5 MPa @ 60°C
Flammability, per MIL-I-46058C	Self-Extinguishing
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Dielectric Breakdown Voltage, per ASTM D149	7500 volts
Dielectric Constant, at 1MHz and 25°C per ASTM D150-98	2.5
Dissipation Factor, at 1MHz and 25°C per ASTM D150-98	0.01
Insulation Resistance, per MIL-I-46058C	8.0×10^{14} ohms (800TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	6.0×10^{10} ohms (60GΩ)
Fungus Resistance, per ASTM G21	Passes

Application of HumiSeal® 1B66S

Cleanliness of the substrate is extremely important to the successful application of a conformal coating. Surfaces should be free of moisture, dirt, wax, grease and all other contaminants. Otherwise, ionic or organic residues on the substrate could be trapped under the coating and cause problems with adhesion or electrical properties. The highest long term reliability for a coated printed circuit assembly will be when the conformal coating is applied over a clean, dry substrate.

The application of conformal coatings over no clean flux is a common practice. The user should perform adequate testing to confirm compatibility between the conformal coating and their particular assembly materials and process conditions. Please contact HumiSeal for additional information.

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Dipping

Depending on the complexity, density and configuration of components on the assembly, it may be necessary to reduce the viscosity of HumiSeal® 1B66S with HumiSeal® Thinner 503 in order to obtain a uniform film. Once optimum viscosity is determined, a controlled rate of immersion and withdrawal (5-15 cm/min) will further ensure even deposition of the coating and ultimately a uniform film. During the application, evaporation of solvent causes an increase in viscosity that should be adjusted by adding small amounts of HumiSeal® Thinner 503. Viscosity in the dip tank should be checked regularly, using a simple measuring device such as a Zahn or Ford viscosity cup.

Spraying

HumiSeal® 1B66S can be sprayed using conventional spraying equipment. Spraying should be done in an environment with adequate ventilation so that the vapour and mist are carried away from the operator. The addition of HumiSeal® Thinner 521 or 521EU is necessary to ensure 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 and operator technique. The recommended ratio of HumiSeal® 1B66S to HumiSeal® Thinner 521 or 521EU is 1:1 by volume; however the ratio may need to be adjusted to obtain a uniform coating.

Brushing

HumiSeal® 1B66S 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® 1B66S should be stored away from excessive heat or cold, in tightly closed containers. HumiSeal® products may be stored at temperatures of 0 to 35°C. Prior to use, allow the product to equilibrate for 24 hours at a room temperature of 18 to 32°C.

Caution

Application of HumiSeal® Conformal Coatings should be carried out in accordance with local and National Health and Safety regulations.

The solvents in HumiSeal® Conformal Coatings are flammable. Material should not be used in presence of open flame or sparks. Use only in well-ventilated areas to avoid inhalation of vapours or spray. Avoid contact with skin and eyes.

Consult MSDS/SDS prior to use.

HumiSeal® 1B66S Technical Data Sheet

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