

HumiSeal 1B31LSE™ Acrylic Conformal Coating

Technical Data Sheet

HumiSeal 1B31LSE™ is a fast drying acrylic coating that provides excellent moisture and environmental protection for printed circuit assemblies. HumiSeal 1B31LSE™ demonstrates outstanding flexibility and electrical properties and fluoresces under ultraviolet light for inspection purposes. HumiSeal 1B31LSE™ coating is IPC-CC-830 and RoHS Directive 2002/95/EC compliant.

Properties HumiSeal 1B31LSE™

Density, g/cm ³ per ASTM, Meth. D1475	0.91 ± .02
Solids Content, % by weight per Fed-Std-141, Meth. 4044	32 ± 2
Viscosity, centipoise per Fed-Std-141, Meth. 4287	330 ± 30
VOC, grams/litre	617
Drying Time to Handle per Fed-Std-141, Meth. 4061	40 minutes
Recommended Coating Thickness, microns	25 - 75
Recommended Curing Conditions	24 hrs @ RT or 30 min @ 76°C
Time Required to Reach Optimum Properties	7 days
Recommended Thinner	HumiSeal Thinner 801
Recommended Stripper	HumiSeal Stripper 1080
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/°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 UL 94	HB
Dielectric Withstand Voltage, volts per MIL-I-46058C	>1,500
Dielectric Breakdown Voltage, volts per ASTM, Meth. D149	7500
Dielectric Constant, at 1MHz and 25°C per ASTM-D150-65T	2.5
Dissipation Factor, at 1MHz and 25°C per ASTM-D150-65T	0.01
Insulation Resistance, ohms per MIL-I-46058C	800x 10 ¹² (800T)
Moisture Insulation Resistance, ohms per MIL-I-46058C	60 x 10 ⁹ (60G)
Fungus Resistance, per ASTM-G21	Passes

Application of HumiSeal 1B31LSE™

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, flux residues and all other contaminants. Contamination under the coating could cause problems that may lead to assembly failures.

Dipping

Depending on the complexity, density and configuration of components on the assembly, it may be necessary to reduce the viscosity of HumiSeal 1B31LSE™ with HumiSeal Thinner 801 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 801. Viscosity in the dip tank should be checked regularly, using a simple measuring device such as a Zahn or Ford viscosity cup.

HumiSeal 1B31LSE™ Technical Data Sheet

Spraying

HumiSeal 1B31LSE™ 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 801 is necessary to ensure a uniform spray pattern. 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 1B31LSE™ to HumiSeal Thinner 801 is 1:1 by volume, however ratio may need to be adjusted to obtain a uniform coating.

Brushing

HumiSeal 1B31LSE™ may be brushed with a small addition of HumiSeal Thinner 801. Uniformity of the film depends on component density and operator's technique.

Storage

HumiSeal 1B31LSE™ 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

The solvents in HumiSeal 1B31LSE™ 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 prior to use.

Contact HumiSeal

HumiSeal North America

201 Zeta Drive
Pittsburgh, PA 15238
USA
Tel: +1 412-828-1500
Toll Free (US only): 866-828-5470
sales@humiseal.com

HumiSeal Technical Center

295 University Avenue
Westwood, MA 02090
USA
Tel: +1 781-332-0734
Fax: +1 781-332-0703
techsupport@humiseal.com

HumiSeal Europe

Albany Park, Frimley Road
Camberley, Surrey GU16 7PH
UK
Tel: +44 (0)1276 691100
Fax: +44 (0)1276 691227
europesales@chasecorp.com

HumiSeal Europe Support

Tel: +44 (0)1276 691100
Fax: +44 (0)1276 691227
europetechsupport@chasecorp.com

HumiSeal S.A.R.L

4/6 Avenue Eiffel
78420 Carrieres-Sur-Seine
France
Tel: +33 (0) 1 30 09 86 86
Fax: +33 (0) 1 30 09 86 87
humiseal.sarl@chasecorp.com

HumiSeal Asian Support

Tel: 852-9451-6434
Fax: 852-2413-6289
asiatechsupport@humiseal.com

The information contained here is provided for product selection purposes only and is not to be considered specification or performance data. Under no circumstance will the seller be liable for any loss, damage, expense or incidental or consequential damage of any kind arising in connection with the use or inability to use its product. Specific conditions of sale and Chase's limited warranty are set out in detail in Chase Corporation Terms and Conditions of Sale. Those Terms and Conditions are the only source that contain Chase's limited warranty and other terms and conditions.