HumiSeal® 1B59 SEC (Sharp Edge Coverage) Synthetic Rubber Conformal Coating Technical Data Sheet

HumiSeal® 1B59 SEC is an air drying, single component, synthetic rubber conformal coating.

Formulated to provide coverage on vertical surfaces and component edges with single layer application.

Designed primarily for application using atomized spray methods.

HumiSeal® 1B59 SEC demonstrates the following advantages:

- Excellent coverage of sharp edge components to provide improved protection.
- Extremely low moisture vapor permeability.
- Protection against moisture, salt / corrosive environments, and dirt. Dielectric Withstand voltage is >1500V after 96 hours exposure to salt spray.
- Improved thermal stability.
- Excellent flexibility putting low stress on components.
- Meets the standards of IPC CC830
- Fluoresces under UV for ease of inspection and is easily repaired.
- Compliant with GB30981-2020
- Withstands exposure to thermal shock.

Typical Properties of HumiSeal® 1B59 SEC Liquid Coating

Density, per ASTM D1475	0.84 ± 0.02 g/cm^3
Solids Content, % by weight per ISO3251	16 ± 2 %
Viscosity, per ASTM D2196 (dependant on shear rate)	200 to 2000CPS at 25°C
VOC	697.2 grams/litre
Drying Time to Handle, per Fed-Std-141, Meth. 4061	< 20 minutes
Shelf Life at Room Temperature, from DOM	12 months

Typical Properties of HumiSeal® 1B59SEC Cured Coating

Recommended Coating Thickness	50 - 100 microns
IPC Thickness Guidelines	12.5 – 100 microns
Recommended Curing Conditions	24 hrs @ RT or 30 min @ 76°C
Recommended Stripper	HumiSeal® Stripper 1080
Minimum Operating Temperature	-65°C
Maximum Operating Temperature	150°C
Glass Transition Temperature - DSC	-50°C
Flash Point	5°C
Modulus - DMA	75 MPa @ -40°C 20 MPa @ 20°C
Elongation at -40°C	200%
Elongation at 23°C	450%
Flammability, per UL-94	V-1
CTI, per DIN EN 60112	600 - <1
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Surface Insulation Resistance 85C/85% RH IPC CC 830	9.5 Log_{10} Ohms

Typical Properties of HumiSeal® 1B59SEC Cured Coating

Moisture Insulation Resistance, per MIL-I-46058C	1.935 x 10^{10} Ohms
Dielectric Constant, at 1GHz and 25°C, per ASTM D150-22	2.47
Dissipation Factor, at 1GHz and 25°C, per ASTM D150-22	<0.001
Shore Hardness A	84

Typical Application of HumiSeal® 1B59 SEC

Conformal coatings can be successfully applied to boards that have been cleaned prior to coating and also to boards assembled using low residue “no clean” assembly materials. Users should perform adequate testing to confirm compatibility between the conformal coating and their particular assembly materials, process conditions and cleanliness level. Please contact HumiSeal® for additional information.

HumiSeal® 1B59 SEC is specifically formulated to shear during application to a viscosity suitable for atomized spray application. No additional dilution is required. HumiSeal® Technical Support should be contacted if any further advice on application methods is required. There is no need for agitation prior to application, however, gentle agitation may help if the material needs to be poured. In this case, mix gentlly to avoid creating bubbles and allow several hours prior to application.

Storage

HumiSeal® 1B59 SEC 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 ambient temperature.

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.

Contact HumiSeal®

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