

## **HumiSeal® 1B58LU-60 Synthetic Rubber Conformal Coating Technical Data Sheet**

HumiSeal® 1B58LU-60 is an air drying, single component, synthetic rubber conformal coating that does not contain toluene. HumiSeal® 1B58LU-60 also has improved thermal stability in its cured state. Because of its unique base polymer, HumiSeal® 1B58LU-60 has extremely low moisture vapor permeability. The coating demonstrates excellent flexibility, low stress on components, fluoresces under UV for ease of inspection and is easily repaired. HumiSeal® 1B58LU-60 is sold as a ready-to-spray preblended product and requires no further dilution. HumiSeal® 1B58LU-60 is in full compliance with the RoHS Directive 2011/65/EC and IPC-CC-830.

### **Properties of HumiSeal® 1B58LU-60**

Density, per ASTM D1475	0.8 ± 0.02 g/cm <sup>3</sup>
Solids Content, % by weight per Fed-Std-141, Meth. 4044	14.5 ± 1.5 %
Viscosity, per Fed-Std-141, Meth. 4287	60 ± 30 centipoise
VOC	656 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 Stripper	HumiSeal® Stripper 1080
Shelf Life at Room Temperature, DOM	18 months
Thermal Shock, 50 cycles per MILI-46058C	-65 °C to 125 °C
Glass Transition Temperature - DSC	-49.6 °C
Tensile Strength, treated at 135 °C	30.6 MPa
	31.3 MPa (after 1000 hrs.)
	28.4 MPa (after 2000 hrs.)
	21.4 MPa (after 3000 hrs.)
Extension, treated at 135 °C	494 %
	504 % (after 1000 hrs.)
	465 % (after 2000 hrs.)
	470 % (after 3000 hrs.)
Moisture Vapor Transmission, per ASTM E398-03	5.2 g/m <sup>2</sup> · day · mil
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Dielectric Strength, KV/mm	138
Dielectric constant (23 °C, 1 MHz)	1.9
Dissipation Factor (23 °C, 1 MHz)	0.0061
Insulation Resistance, per MIL-I-46058C	5.0 x 10 <sup>14</sup> ohms (500 TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	7.5 x 10 <sup>13</sup> ohms (75 TΩ)

### **Application of HumiSeal® 1B58LU-60**

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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### Spraying

HumiSeal® 1B58LU-60 can be sprayed using automated spraying equipment. Spraying should be done in an environment with adequate ventilation so that the vapor and mist are carried away from the operator.

### Storage

HumiSeal® 1B58LU-60 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.

## 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](mailto: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](mailto:techsupport@humiseal.com)

### HumiSeal Europe

505 Eskdale Road, IQ Winnersh  
Berkshire RG41 5TU  
UK  
Tel: +44 (0)1189 442 333  
Fax: +44 (0)1189 335 799  
[europesales@chasecorp.com](mailto:europesales@chasecorp.com)

### HumiSeal Europe Support

Tel: +44 (0)1189 442 333  
Fax: +44 (0)1189 335 799  
[europetechsupport@chasecorp.com](mailto:europetechsupport@chasecorp.com)

### HumiSeal S.A.R.L

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

### HumiSeal Asian Support

Tel: 852-9451-6434  
Fax: 852-2413-6289  
[asiatechsupport@humiseal.com](mailto:asiatechsupport@humiseal.com)

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