

## HumiSeal® 1B31 LTX Products Conformal Coatings Preliminary Technical Data Sheet

HumiSeal® 1B31 LTX is a fast drying, single component acrylic conformal coating, specifically designed to protect against the effects of moisture, corrosive environments and dirt. It is specially formulated with reduced xylene and toluene concentration to be fully compliant with GB30981-2020\*. Humiseal 1B31 LTX is available in a range of pre-blends, which are formulated for use with no further dilution.

\*Standard GB30981-2020 defines limits on VOCs and solvent usage for Conformal Coatings. Standard GB/T 23990-200 defines the test method for Solvent % analysis.

Humiseal 1B31 LTX has the following advantages:

- Protection against moisture, salt / corrosive environments and dirt
- Easy application with automated systems
- Easy to cure and dry
- Low moisture vapor permeability.
- Fluoresces under UV for ease of inspection and is easily repaired.
- Easy removal using Humiseal® Strippers.
- Range of preblends thinners available for different application methods
- Compliant with GB30981-2020

Humiseal 1B31 LTX is available in a range of pre-blends, which are formulated for use with no further dilution:

- Pre-blends with Thinner 600 are ideal for enhanced spray application
- Pre-blends with Thinner 789 are ideal for film coater systems. Heated systems may be needed for 120CPS pre-blends, providing improved coating coverage

### Properties of HumiSeal® 1B31 LTX Pre-blended Products

Product	Viscosity (CPS)	Solids (%)	Density (g/cm <sup>3</sup> )	VOC** (g/L)
1B31 LTX	200 ± 15	35 ± 3	0.91 ± 0.02	592
1B31 LTX/600 PB120	120 ± 5	29.5 ± 1.5	0.92 ± 0.02	649
1B31 LTX/789 PB120	120 ± 5	31.5 ± 1.5	0.89 ± 0.02	610
1B31 LTX/600 PB65	65 ± 5	23.5 ± 1.5	0.90 ± 0.02	689
1B31 LTX/789 PB65	65 ± 5	26.5 ± 1.5	0.87 ± 0.02	639

\*\* Conformal coatings are exempt from VOC restrictions as defined in GB30981-2020

Recommended Coating Thickness	25 - 75 microns
Drying Time to Handle per Fed-Std-141, Meth. 4061	10 minutes
Recommended Curing Conditions	24 hrs @ RT or 30 min @ 76°C
Time Required to Reach Optimum Properties	7 days
Recommended Stripper	HumiSeal® Stripper 1080
Thermal Shock, 50 cycles per MIL-I-46058C	-65°C to 125°C
Coefficient of Thermal Expansion - TMA	170 ppm/°C below T <sub>g</sub> 340 ppm/°C above T <sub>g</sub>
Glass Transition Temperature - DSC	14°C
Modulus - DMA	2000 MPa @ -40°C 1050 MPa @ 20°C 8.5 MPa @ 60°C
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 x 10 <sup>14</sup> ohms (800TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	6.0 x 10 <sup>10</sup> ohms (60GΩ)
Fungus Resistance, per ASTM G21	Passes

### Application of HumiSeal® 1B31 LTX Pre-blended Products

Conformal coatings can be successfully applied to substrates that have been cleaned prior to coating and also to substrates assembled with low residue “no clean” 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® 1B31 LTX Pre-Blends are specifically diluted to a viscosity for immediate use. No additional dilution is required. Customers should establish which Pre-Blend is suitable for their equipment and application method before commercial use. HumiSeal® Technical Support should be contacted if any further advice on Pre-Blends and equipment is required.

#### Storage

HumiSeal® 1B31 LTX and Pre-Blends 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 SDS prior to use.

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