

HumiSeal[®] UV40-250 UV Curable Conformal Coating

Technical Data Sheet

HumiSeal[®] UV40-250 is a single component, high solids, UV curable, acrylated polyurethane conformal coating that possesses excellent chemical resistance, surface hardness, flexibility and moisture resistance. The material is tack-free after exposure to UV light. A secondary moisture cure mechanism will cure unexposed areas of the coating within 2-3 days at ambient conditions. The coating fluoresces under UV light to allow for coating inspection and can be applied by all selective coating equipment. HumiSeal UV40-250[™] is IPC-CC-830 and RoHS Directive 2002/95/EC compliant.

Typical Properties of HumiSeal[®] UV40-250

Density	1.06 g/cm ³
Minimum Solids Content	95 %
Viscosity, per Fed-Std-141, Meth. 4287	300 ± 50 centipoise
Recommended Coating Thickness	25 - 125 microns
Recommended UV Dose*	1 - 5 J/cm ²
Shelf Life at Room Temperature, DOM	6 months
Thermal Shock, 500 cycles per MIL-I-46058C	-65 °C to 125 °C
Glass Transition Temperature - DSC	26 °C
Coefficient of Thermal Expansion	112 ppm/°C Below T _g 283 ppm/°C Above T _g
Modulus - DMA	1060 MPa -60 °C
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Dielectric Constant, at 1MHz and 25 °C per ASTM D150-98	2.41
Dissipation Factor, at 1MHz and 25 °C per ASTM D150-98	0.01
Insulation Resistance, per MIL-I-46058C	8.0 x 10 ¹⁴ ohms (800TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	4.7 x 10 ¹⁰ ohms (47GΩ)
Fungus Resistance, per ASTM G21	Pass
Resistance to Chemicals	Excellent

*Fusion "H" style bulb recommended

Application of HumiSeal[®] UV40-250

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.

Spraying

HumiSeal[®] UV40-250 can be applied via standard selective coating. The source air used for spraying must be dry (a dry inert gas is highly recommended) to prevent premature curing by the secondary cure mechanism. The spraying should be done with adequate ventilation so that the vapour and mist are carried away from the operator.

Clean Up

To flush equipment and clean uncured HumiSeal[®] UV40-250, non-alcohol based solvents should be used. HumiSeal[®] Thinner 600 is recommended.

HumiSeal[®] UV40-250 Technical Data Sheet

Rework

HumiSeal[®] UV40-250 is a highly cross linked UV cured coating. The cured film has a high degree of environmental and chemical resistance and will be more difficult to remove than traditional conformal coatings. Thermal displacement and mechanical abrasion are suitable options for rework of HumiSeal[®] UV40-250.

Storage

HumiSeal[®] UV40-250 is photosensitive; the product should not be exposed to direct sunlight or full spectrum fluorescent lighting. HumiSeal[®] UV40-250 should be stored away from excessive heat, in tightly closed opaque containers at 0 to 25°C to ensure maximum shelf life is achieved.. Prior to use, allow the product to equilibrate for 24 hours at room temperature. HumiSeal[®] UV40-250 is a moisture curing material and care should be taken to protect process vessels and partial containers from moisture. Partial containers must be purged with a dry, inert gas such as dry air, nitrogen or argon before closure, otherwise premature polymerization by atmospheric moisture will occur.

Caution

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

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

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

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

HumiSeal Europe Support

Tel: +44 (0)1189 442 333
Fax: +44 (0)1189 335 799
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.