

HumiSeal 1C49LV™ Silicone Conformal Coating

Technical Data Sheet

HumiSeal 1C49LV™ is a moisture curing, low viscosity, VOC-free silicone conformal coating which provides excellent moisture and environmental protection for printed circuit assemblies. HumiSeal 1C49LV™ is solvent free. The coating demonstrates outstanding flexibility, fluoresces under UV light for ease of inspection and can be repaired. HumiSeal 1C49LV™ can be cured at room or at elevated temperatures. HumiSeal 1C49LV™ is MIL-I-46058C qualified, IPC-CC-830 and RoHS Directive 2002/95/EC compliant, and recognized under UL File Number E105698.

Properties of HumiSeal 1C49LV™

Density, g/cm ³ per ASTM, Meth. D1475	0.97 ± .03
Solids Content, % by weight per Fed-Std-141, Meth. 4044	90 min
Viscosity, centipoise per Fed-Std-141, Meth. 4287	550 ± 250
VOC, grams/litre	0
Recommended Coating Thickness, microns	50 - 200
Drying Time to Handle per Fed-Std-141, Meth. 4061	60 min
Recommended Curing Conditions	24 hrs @ RT or 20 min @ 76°C*
Time required to Reach Optimum Properties	7 days
Recommended Stripper	HumiSeal Stripper 1090
Shelf Life at Room Temperature, DOS	6 months
Thermal Shock, 50 cycles per MIL-I-46058C	-65°C to 200°C
Coefficient of Thermal Expansion - TMA	323 ppm /°C (Above T _g)
Glass Transition Temperature - DSC	< -65°C
Modulus - DMA	9.0 MPa @ -40°C
	3.8 MPa @ 25°C
	3.2 MPa @ 80°C
Flammability, per UL94	V-1
Dielectric Withstand Voltage, volts per MIL-I-46058C	>1,500
Dielectric Breakdown Voltage, volts per ASTM, Meth. D149	7000
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	500 x 10 ¹² (500T)
Moisture Insulation Resistance, ohms per MIL-I-46058C	100 x 10 ⁹ (100G)
Fungus Resistance, per ASTM-G21	Passes

*Place an open pan of water in the oven during curing

Application of HumiSeal 1C49LV™

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.

Brushing

Uniformity of the film depends on component density and operator's technique.

Dipping

A controlled rate of immersion and withdrawal (5-15 cm/min) will ensure even deposition of the coating and ultimately a uniform film. Blanketing dip tanks with an inert gas such as nitrogen can extend pot life.

HumiSeal 1C49LV™ Technical Data Sheet

Spraying

HumiSeal 1C49LV™ may be applied using most conventional spraying equipment. When in doubt, test the ability of the spray equipment before applying coating to production boards. Spraying should be done in an environment with adequate ventilation so that the vapour and mist are carried away from the operator. The use of thinner is not required or recommended for HumiSeal 1C49LV™.

Storage

HumiSeal 1C49LV™ should be stored at 27°C or below in tightly closed containers away from direct sunlight. If coating is partially used, the container should be purged with dry nitrogen prior to resealing. Prior to use, allow the product to equilibrate for 24 hours at room temperature.

Caution

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 Carrières-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.