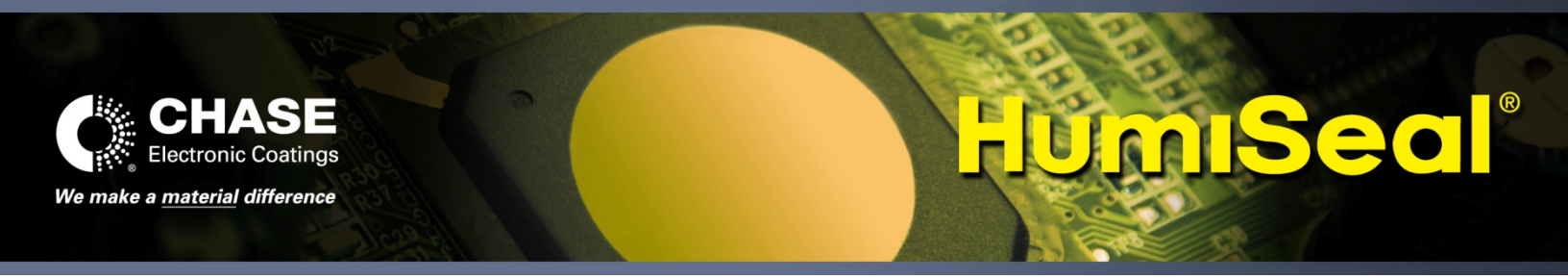

HumiSeal® 1C55 Silicone Conformal Coating Technical Data Sheet

HumiSeal® 1C55 is a single component, VOC-free, low viscosity, fast thermal curing silicone conformal coating. The reduced viscosity and long pot life of HumiSeal® 1C55 make it ideal for dipping and spraying. HumiSeal® 1C55 demonstrates excellent flexibility, contains an optical brightener for inspection under black light and is repairable. HumiSeal® 1C55 coating is RoHS Directive 2011/65/EU compliant.

Properties of HumiSeal® 1C55

Density, per ASTM D1475	0.98 ± 0.02 g/cm³
Min. Solids Content, % by weight per Fed-Std-141, Meth. 4044	99 %
Viscosity, per Fed-Std-141, Meth. 4287	195 - 400 cps
VOC	0 g/L
Recommended Coating Thickness	50 - 200 microns
Recommended Curing Conditions	10 - 15 minutes @ 105 - 130ºC
Time Required to Reach Optimum Properties	15 minutes
Recommended Stripper	HumiSeal® Stripper 1091
Shelf Life at Recommended Conditions, DOM	12 months
Thermal Shock, 50 cycles per MIL-I-46058C	-65°C to 200°C
Glass Transition Temperature - DSC	< -65ºC
Coefficient of Thermal Expansion - TMA	154 ppm/°C
Modulus - DMA	0.7 MPa @ -40ºC 0.6 MPa @ 25ºC 0.5 MPa @ 80ºC
Tensile Strength	0.15 MPa
Elongation	16%
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Dielectric Breakdown Voltage, per ASTM D149	7000 volts
Dielectric Constant, at 1MHz and 25°C per ASTM D150-98	2.4
Dissipation Factor, at 1MHz and 25°C per ASTM D150-98	0.01
Insulation Resistance, per MIL-I-46058C	5.0×10^{14} ohms (500TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	1.0×10^{10} ohms (10GΩ)
Fungus Resistance, per ASTM G21	Passes

Application of HumiSeal® 1C55

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.

Dipping

A controlled rate of immersion and withdrawal (5-15 cm/min) will ensure even deposition of the coating and ultimately a uniform film.

Brushing

HumiSeal® 1C55 may be brushed. Uniformity of the film depends on component density and operator's technique.

HumiSeal® 1C55 Technical Data Sheet

Spraying

HumiSeal® 1C55 can be sprayed using conventional spraying equipment. Spray pressure will depend on the specific type of spraying equipment used and operator technique. 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® 1C55.

Curing

HumiSeal® 1C55 is a thermally cured conformal coating. The actual curing temperature of HumiSeal® 1C55 is dependent upon several parameters such as heat sink characteristics of parts being coated, the type of oven used for curing process, as well as oven loading parameters.

The cure mechanism for HumiSeal® 1C55 may be inhibited by a variety of materials such as amines, acrylates, certain ingredients from latex rubber, etc. It is recommended that process and material compatibility be considered when incorporating HumiSeal® 1C55 into the production environment. Cotton gloves are recommended for operators who will be handling assemblies prior to coating with HumiSeal® 1C55.

Storage

HumiSeal® 1C55 should be stored at 25°C or below in tightly closed containers away from direct sunlight. Cold storage of HumiSeal® 1C55 (-15°C -to 4°C) will extend its shelf life. If the product is stored at cold temperatures, allow the product to equilibrate for 24 hours at room temperature prior to use.

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 SDS prior to use.

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