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HumiSeal®

HumiSeal® 1C48 Silicone Conformal Coating Technical Data Sheet

HumiSeal® 1C48 is a fast moisture cure, low viscosity VOC-free silicone conformal coating which provides excellent moisture and environmental protection for printed circuit assemblies. HumiSeal® 1C48 is solvent free and can be cured at room temperature in just a few minutes. HumiSeal® 1C48 is RoHS Directive 2011/65/EU compliant.

Properties of HumiSeal® 1C48

Density, per ASTM D1475	1.01 ± 0.03 g/cm³
Min. Solids Content, % by weight per Fed-Std-141, Meth. 4044	100 %
Viscosity, per Fed-Std-141, Meth. 4287	270 ± 50 centipoise
VOC	0 grams/liter
Recommended Coating Thickness	50 - 200 microns
Drying Time to Handle per Fed-Std-141, Meth. 4061	5 min (100 µm, 50% RH at 21 ºC) 8 min (200 µm, 50% R.H. at 21 ºC) 1.5 min (100 µm, 8% R.H. at 60 ºC) 4 min (200 µm, 8% R.H. at 60 ºC)
Recommended Curing Conditions	24 hrs. @ RT (> 40% R.H.)
Time required to Reach Optimum Properties	7 days
Recommended Stripper	HumiSeal® Stripper 1091
Shelf Life at Room Temperature, DOM	12 months
Dielectric Strength per ASTM D149	18.5 KV/mm
Hardness, per ASTM D-2240-95	25 Shore A
Volume Resistivity per ASTM D-257	3.44 x 10^{14} ohms.cm (344TΩ.cm)
Surface Resistivity, per ASTM D-257	3.0 x 10^{14} ohms per sq.(300TΩ/sq.)
Insulation Resistance, per MIL-I-46058C	5.0 x 10^{13} ohms (50TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	45.2 x 10^{10} ohms (452GΩ)

Application of HumiSeal® 1C48

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.

1C48 is designed for application without additional thinning. Solvents or other thinners should not be mixed with 1C48. 1C48 may be applied by spray, brushing, flow coating or dipping. The time required to reach a tack free state is dependent on ambient conditions such as temperature and relative humidity. The processing guidelines contained in this document were obtained with an ambient relative humidity of 50%.

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.

Spraying
HumiSeal® 1C48 may be applied using conventional spraying equipment. 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® 1C48.

HumiSeal® 1C48 Preliminary Technical Data Sheet

Storage

When HumiSeal® 1C48 stored in original containers at 5 ºC to 40 ºC, the shelf life is expected to be 12 months. If coating is partially used, the container should be purged with dry nitrogen prior to resealing. Once opened, refrigerated storage at below 10 ºC is recommended. Prior to use, allow the product to equilibrate for 24 hours at room temperature (above 16 ºC).

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.

Contact HumiSeal®

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