

HumiSeal® 1R32A-2 Pre-Blend Acrylic Conformal Coatings Technical Data Sheet

HumiSeal® 1R32A-2 is a fast drying, single component acrylic coating, formulated for improved adhesion to typical substrates, whilst providing excellent moisture and environmental protection for printed circuit assemblies. HumiSeal® 1R32A-2 is also produced as pre-blended products, at a range of viscosities, suitable for a variety of applications. Humiseal also supply 1R32A-2 pre-blended with suitable solvents at a variety of viscosities. These are suitable for various applications without further dilution. HumiSeal® 1R32A-2, and its pre-blends, fluoresce under UV light for ease of inspection and are easily repairable. HumiSeal® 1R32A-2 is in full compliance with the RoHS Directive EU 2015/863 and is recognized under UL File Number E105698. After complete cure, the properties of HumiSeal® 1R32A-2 pre-blends and HumiSeal® 1R32A-2 are comparable.

Typical Properties of HumiSeal® 1R32A-2 Pre-Blend

Product	Viscosity (CPS)	Solids (%)	Density (g/cm ³)	VOC (g/L)
1R32A-2 PB 65 CPS	65 ± 5	21 ± 1	0.925 ± 0.02	726.8
1R32A-2 PB 53 CPS	53 ± 5	19 ± 1	0.93 ± 0.02	744.0
1R32A-2/505 PB 90 CPS	90 ± 5	25 ± 2	0.90 ± 0.02	675.0
1R32A-2/505 PB 65 CPS	65 ± 5	22 ± 2	0.89 ± 0.02	717.6
1R32A-2/505 PB 40 CPS	40 ± 5	21 ± 2	0.89 ± 0.02	703.1
1R32A-2/600 PB 40 CPS	40 ± 5	18 ± 2	0.93 ± 0.02	770.8
1R32A-2/600 PB 23 CPS	23 ± 5	14.5 ± 2.5	0.93 ± 0.02	786.6
1R32A-2/673S PB 150	130 ± 5	27 ± 2	0.91 ± 0.02	664.0
1R32A-2/673S PB 65 CPS	65 ± 5	22 ± 2	0.91 ± 0.02	709.8

Recommended Coating Thickness
Drying Time to Handle per Fed-Std-141, Meth. 4061
Recommended Curing Conditions
Time Required to Reach Optimum Properties
Recommended Stripper
Thermal Shock, 50 cycles per MIL-I-46058C
Coefficient of Thermal Expansion - TMA

Glass Transition Temperature - DSC
Modulus - DMA

Flammability, per UL 94
Dielectric Withstand Voltage, per MIL-I-46058C
Dielectric Breakdown Voltage, per ASTM D149
Dielectric Constant, at 1MHz and 25°C per ASTM D150-98
Dissipation Factor, at 1MHz and 25°C, per ASTM D150-98
Insulation Resistance, per MIL-I-46058C
Moisture Insulation Resistance, per MIL-I-46058C
Fungus Resistance, per ASTM G21

25 - 75 microns
10 minutes
24 hrs @ RT or 30 min @ 76°C
7 days
HumiSeal® Stripper 1080
-65°C to 125°C
170 ppm/°C below T_g
340 ppm/°C above T_g
14°C
2000 MPa @ -40°C
1050 MPa @ 20°C
8.5 MPa @ 60°C
V-0
>1500 volts
7500 volts
2.5
0.01
8.0 x 10¹⁴ ohms (800TΩ)
6.0 x 10¹⁰ ohms (60GΩ)
Passes

Application of HumiSeal[®] 1R32A-2 Pre-Blend

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[®] 1R32A-2 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[®] 1R32A-2 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.

Contact HumiSeal[®]

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