

Technical Data Sheet

Electronic & Engineering Materials

CONATHANE® CE-1155-35

Two-Component Polyurethane Conformal Coating



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CONATHANE® CE-1155-35

Product Description

CONATHANE® CE-1155-35 is a transparent, two-component, fast curing polyurethane conformal coating.

It is a pre-diluted version of CONATHANE® CE-1155.

Areas of Application

CONATHANE® CE-1155-35 provides an excellent electrical and moisture barrier for thin film applications on components and printed circuit boards.

Features and Benefits

- QPL listed for MIL-I-46058C for Type UR
- Excellent hydrolytic stability
- Flexible coating
- Excellent adhesion to phenolic and epoxy-glass laminates, even in harsh environments
- Tracer dye added to aid inspection under UV Lighting

Application Methods

- Spray coating
- Dip coating
- Brush applied

Transportation / Storage

Store at or below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for twelve (12) months from the date of shipment.

This product is sensitive to moisture and atmospheric humidity. Containers, once opened, should be used immediately or blanketed with dry air or nitrogen (CONAP® Dri-Purge) before resealing.

Failure to store CONATHANE® CE-1155-35 as recommended above may lead to deterioration in product performance.

Health / Safety

CAUTION: Material is flammable. Do NOT use in the presence of open flames or sparks.

Refer to the Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	
		CONATHANE® CE-1155-35 Part A Prepolymer	CONATHANE® CE-1155-35 Part B Curative
Mix Ratio	Parts by volume	100	100
Viscosity	25°C / 77°F	30 cP	20 cP
Specific Gravity	25°C / 77°F	1.05	0.93
Color		Clear amber	Clear amber
Solids Content	135°C for 45 min	37%	30%
Flash Point	ASTM D93	32°C 90°F	13°C 55°F

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Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Viscosity (Brookfield)	25°C / 77°F	25	cP
Pot Life	25°C / 77°F	8 – 10	hours

Regulatory Information

Property	Test Method	Value	Units
Volatile Organic Content	ASTM D3960	5.5	pounds / gallon
RoHS Compliance	CONATHANE® CE-1155-35 Conformal Coating complies with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 (RoHS 2.0) as amended 31 March 2015.		

Application / Curing Schedule

Performance of the CONATHANE® CE-1155-35 cured film is dependent on process controls used in application of the coating. Cleanliness of the substrate is a major factor in promoting adhesion and preventing under-film corrosion. Assemblies must be clean, oil-free and dry. For specific recommendations, please request Technical Bulletin *TI-4007 Application Information for CONATHANE® and CONAP® conformal coatings*.

CE-1155-35 can be applied by spraying, dipping, or brushing. If additional viscosity reduction is desired, dilutions of the CE-1155-35 can be done with CONAP® S-8 Solvent for most applications.

A minimum of two coats of CE-1155-35 is recommended for optimal protection. A total cured film thickness of 2 ± 1 mils is recommended. CE-1155-35 may be recoated after the previous film is tack free. It is recommended that the wet film thickness not exceed 2 to 2.5 mils.

Curing of the film is dependent upon the evaporation of the solvents and subsequent reaction of the polymer. Use the following estimates for tack-free and cure times:

Temperature	Tack-free Time	Cure Time
25°C (77°F)	2 - 3 hours	5 – 7 days
60°C (140°F)	20 – 30 minutes	3 hours

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application.

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Typical Physical Properties

Property	Test Method	Conditions	Value
Color	Visual	25°C / 77°F	Clear light amber
Chemical Resistance			Excellent
Solvent Resistance			Excellent
Hydrolytic Stability	MIL-I-46058C	120 days @ 85°C / 95% RH	No discoloration or degradation
Flexibility	MIL-I-46058C	1/8" diameter mandrel	Pass
Thermal Shock	MIL-I-46058C	-65°C / -85°F to 125°C / 257°F	Pass
Fungus Resistance	ASTM G21		Non-nutrient
Inspection		UV Light	Fluorescent

Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Insulation Resistance	MIL-I-46058C	2 mil @ 25°C / 50% RH	$>2.5 \times 10^{13}$	ohms
		After 10 d @ 65°C / 95% RH	6.1×10^{10}	ohms
Dielectric Withstanding Voltage	MIL-I-46058C	1,500 VAC	No flashover or breakdown	
Dielectric Constant	ASTM D150	1 MHz @ 25°C / 77°F	3.4	
Dissipation Factor	ASTM D150	1 MHz @ 25°C / 77°F	0.016	
Volume Resistivity	ASTM D257	25°C / 77°F	1.2×10^{16}	ohm-cm
Surface Resistivity	ASTM D257	25°C / 77°F	5.7×10^{14}	ohms

The above properties are typical values and are not intended for specification use.

ELANTAS PDG, Inc. warrants the chemical composition of its products within stated tolerances, but does not guarantee that a product will be appropriate for any particular application. Any recommendation, performance of tests or suggestion is offered merely as a guide and is not a substitute for a thorough evaluation by the user. No representative of ELANTAS PDG, Inc. has the authority to offer a warranty that a product will perform satisfactorily in manufacturing an article and no such representation should be relied upon.

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