Technical Data Sheet

Electrical Insulation

CONATHANE® EN-14

Two-Component Polyurethane Potting Compound

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Product Description

CONATHANE® EN-14 is an unfilled, two-component, room temperature curing, 100%-solids polyurethane system.

Areas of Application

Potting and encapsulation of electrical and electronic assemblies

Features and Benefits

- Flexible to -40°C and below
- Excellent thermal shock characteristics
- Resistant to hydrolysis (85°C / 85% R.H.)
- Room temperature or low temperature cure
- Excellent adhesion to plastic and metal
- Suitable for Class 120 service

Application Methods

- Meter-mix Bench Potting / Casting
- Meter-mix Vacuum Potting / Casting

Transportation / Storage

Store at 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.

Failure to store the product as recommended above may lead to deterioration in product performance.

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.

Mix individual components thoroughly before use.

Health / Safety

Refer to the Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		CONATHANE® EN-14 Part A Urethane Prepolymer	**CONATHANE® EN-14 Part B Curative**	
Viscosity	25°C / 77°F	1500	1000	cP
Color		Amber	Amber or Black	
Weight per Gallon	25°C / 77°F	9.1	8.1	pounds
Flash Point	ASTM D93	> 94 > 201	> 94 > 201	°C °F
Mix Ratio	Parts by weight Parts by volume	100 100	90 100	

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Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Viscosity (initial)	25°C / 77°F	1200	cP
Gel Time	25°C / 77°F	15	minutes
Work Life	25°C / 77°F	20	minutes

Regulatory Information

Property	
RoHS Compliance	CONATHANE® EN-14 Part A Urethane Prepolymer, CONATHANE® EN-14 Part B Curative and CONATHANE® EN-14 Part B Black Curative comply 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

Mix Resin and Hardener in the ratio specified above until homogeneous. If hand mixing, degas at 1-5 mm Hg vacuum before use.

Cure 3 – 4 days at 25°C / 77°F – **or** – 3 hours at 60°C / 140°F

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.

Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Shore Hardness	ASTM D2240	25°C / 77°C	A 65	
Tensile Strength	ASTM D229	25°C / 77°C	700	psi
Elongation	ASTM D229	25°C / 77°C	110	%
Tear Strength		25°C / 77°C	35	pli
Thermal Conductivity	ASTM C177		0.2	W / m·K
Thermal Shock		-65°C to 130°C	pass 10	cycles
Water Absorption		25°C / 77°F – 24 hours 25°C / 77°F – 7 days	0.4 0.8	% %
Flammability	UL94		V-2	

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Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	25°C / 77°C	> 500	volts / mil
Dielectric Constant	ASTM D150	100 Hz – 25°C / 77°F 1 MHz – 25°C / 77°C	5.7 3.4	
Dissipation Factor	ASTM D150	100 Hz – 25°C / 77°F 1 MHz – 25°C / 77°C	0.12 0.04	
Volume Resistivity	ASTM D257	25°C / 77°F	3×10^{13}	ohm-cm
Surface Resistivity	ASTM D257	25°C / 77°F	1×10^{13}	ohms / sq.
Arc Resistance			> 120	seconds

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