

Technical Data Sheet

Electrical Insulation Materials

CONAPOXY® RN-1000

Two-Component Epoxy Potting Compound

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CONAPOXY® RN-1000

Product Description

CONAPOXY® RN-1000 is a two-component, unfilled epoxy potting system.

Areas of Application

Potting and encapsulation of electrical / electronic devices such as modules, transformers and coils.

Features and Benefits

- Low exotherm
- Low shrinkage
- Excellent thermal shock resistance
- Good electrical properties with very good arc resistance
- Multiple curative options to vary pot life and properties

Application Methods

- Hand-mix bench potting / casting
- Meter-mix bench potting / casting
- Meter-mix vacuum potting / casting

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.

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 and degas individual components thoroughly prior to use.

Health / Safety

Refer to the Safety Data Sheet.

See ELANTAS PDG Technical Bulletins *TI-100 - Handling Precautions for Epoxy Resins* and *TI-4005 - Epoxy Reaction Potential Hazards* for additional information.

Recommended Curatives

CONACURE® EA-02 provides:	Room temperature cure, low viscosity, 30 minute work time, rigid castings
CONACURE® EA-028 provides:	Limited flexibility, 30 minute pot life, and low viscosity. Will cure in thin films at room temperature. Very good thermal shock resistance.
CONACURE® EA-87 provides:	Limited flexibility, 90 minute pot life, and low viscosity. Requires heat to cure in thin films.

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Typical Properties of Material as Supplied

Property	Conditions	Value			
		CONAPOXY® RN-1000 Resin	CONACURE® EA-02 Hardener	CONACURE® EA-028 Hardener	CONACURE® EA-87 Hardener
Viscosity	25°C / 77°F	800 cP	55 cP	40 cP	60 cP
Specific Gravity	25°C / 77°F	1.14	0.98	1.00	0.96
Color		amber	amber	amber	light amber
Mix Ratio	Parts by weight	100	11	28	37
	Parts by volume	100	13	32	45
Flash Point	ASTM D93	>94°C >201°F	>94°C >201°F	>94°C >201°F	>94°C >201°F

Typical Properties of Mixed Materials

Property	Conditions	Value			Units
CONAPOXY® RN-1000 with:		CONACURE® EA-02 Hardener	CONACURE® EA-028 Hardener	CONACURE® EA-87 Hardener	
Viscosity (initial)	25°C / 77°F	600	500	250	cP
Gel Time	25°C / 77°F	30	30	90	minutes

Typical Electrical Properties

Property	Conditions	Value			Units
CONAPOXY® RN-1000 with:		CONACURE® EA-02 Hardener	CONACURE® EA-028 Hardener	CONACURE® EA-87 Hardener	
Dielectric Strength	ASTM D149 25°C / 77°F	350	350	350	volts / mil
Dielectric Constant	ASTM D150 1 kHz @ 25°C / 77°C	3.5	4.7	5.0	
Dissipation Factor	ASTM D150 1 kHz @ 25°C / 77°C	0.002	0.015	0.040	
Volume Resistivity	ASTM D257	3.0 x 10 ¹⁴	4.0 x 10 ¹²	9.0 x 10 ¹⁵	ohm-cm
Surface Resistivity	ASTM D257	2.0 x 10 ¹⁵	9.5 x 10 ¹⁴	4.0 x 10 ¹⁶	ohms / sq.

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Typical Physical Properties

Property	Conditions	Value			Units
CONAPOXY® RN-1000 with:		CONACURE® EA-02 Hardener	CONACURE® EA-028 Hardener	CONACURE® EA-87 Hardener	
Shore Hardness	ASTM D2240 25°C / 77°F	D 80	D 80	D 88	
Tensile Strength	ASTM D412 25°C / 77°F	10,000	4,000	7,200	psi
Compressive Strength	ASTM D695 25°C / 77°F	15,000	14,000	16,000	psi
Linear Shrinkage	MIL-M-24041C 25°C / 77°F	1.3	1.4	0.8	%
Glass Transition Temperature	DSC	85 185	65 149	75 167	°C °F
Coefficient of Thermal Expansion		55	55	55	ppm / °C
Thermal Conductivity		0.2	0.2	0.2	W / m·K

Application / Curing Schedule

Mix the CONAPOXY® RN-1000 Resin and respective catalyst in the ratio specified above until homogeneous. Components may be preheated up to 60°C if reduced viscosity is required. If hand mixing, degas at >27 in. Hg vacuum before use.

Cure 24 hours at 25°C / 77°F – or – 2 hours at 60°C / 140°F for maximum properties.

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 their application.

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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