Technical Data Sheet

Electrical Insulation Materials

CONAPOXY® RN-1200

Two-Component Epoxy Potting Compound

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CONAPOXY® RN-1200

Product Description

CONAPOXY® RN-1200 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.

CONAPOXY® RN-1200

Typical Properties of Material as Supplied

Property	Conditions	Value			
		CONAPOXY® RN-1200 Resin	**CONACURE® EA-02 Hardener**	**CONACURE® EA-028 Hardener**	**CONACURE® EA-87 Hardener**
Viscosity	25°C / 77°F	12,000 cP	55 cP	40 cP	40 cP
Specific Gravity	25°C / 77°F	1.16	0.98	1.00	0.96
Color		Amber or black	amber	amber	light amber
Mix Ratio	Parts by weight Parts by volume	100 100	11 13	28 32	37 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-1200 with:		**CONACURE® EA-02 Hardener**	**CONACURE® EA-028 Hardener**	**CONACURE® EA-87 Hardener**	
Viscosity (initial)	25°C / 77°F	3,000	1,500	1,500	cP
Gel Time	25°C / 77°F	30	40	60	minutes

Typical Electrical Properties

Property	Conditions	Value			Units
CONAPOXY® RN-1200 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	0.017	0.001	0.035	
Volume Resistivity	ASTM D257	2.0×10^{14}	4.0×10^{12}	4.2×10^{15}	ohm-cm
Surface Resistivity	ASTM D257	2.4×10^{15}	1.0×10^{15}	8.8×10^{15}	ohms / sq.

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Typical Physical Properties

Property	Conditions	Value			Units
CONAPOXY® RN-1200 with:		**CONACURE® EA-02 Hardener**	**CONACURE® EA-028 Hardener**	**CONACURE® EA-87 Hardener**	
Shore Hardness	ASTM D2240 25°C / 77°F	D 84	D 84	D 85	
Tensile Strength	ASTM D412 25°C / 77°F	10,000	7,600	8,100	psi
Compressive Strength	ASTM D695 25°C / 77°F	18,000	12,000	13,500	psi
Linear Shrinkage	MIL-M-24041C 25°C / 77°F	1.1	1.2	0.8	%
Glass Transition Temperature	DSC	85 185	70 158	85 185	°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-1200 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.