

Technical Data Sheet

Electrical Insulation

CONAPOXY® FR-1274

Two-Component Epoxy Potting Compound

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CONAPOXY® FR-1274

Product Description

CONAPOXY® FR-1274 is a two-component, mineral-filled, flame-retardant epoxy potting system.

Areas of Application

Potting and encapsulation of electrical / electronic devices such as modules, transformers, and coils as well as strain sensitive applications.

Features and Benefits

- UL94 V-0
- 1:1 Volumetric mix ratio
- Low exotherm
- Long work life
- Excellent thermal shock resistance

Application Methods

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

Transportation / Storage

Store 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.

CONAPOXY® FR-1274 Part A Resin and CONAPOXY® FR-1274 Part B Hardener contain fillers and should be well mixed, prior to use until the filler is redistributed homogeneously.

Health / Safety

Refer to the Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	
		CONAPOXY® FR-1274 Part A Resin	CONAPOXY® FR-1274 Part B Hardener
Viscosity	25°C / 77°F	27,000 cP	55,000 cP
Specific Gravity	25°C / 77°F	1.6	1.6
Color		Black or Tan	Brown
Mix Ratio	Parts by weight Parts by volume	100 100	100 100
Flash Point	ASTM D93	> 94°C > 201°F	> 94°C > 201°F

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Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Viscosity (initial)	25°C / 77°F	40,000	cP
Gel Time	225 g @ 25°C / 77°F	2 – 3	hours
Peak Exotherm	200 g @ 25°C / 77°F	43 110	°C °F

Regulatory Information

RoHS Compliance	CONAPOXY® FR-1274 Part A Resin and CONAPOXY® FR-1274 Part B Hardener 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.
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Application / Curing Schedule

Mix the FR-1274 Part A and FR-1274 Part B 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 - 48 hours at 25°C / 77°F – **or** – 3 - 5 hours at 60°C / 140°F – **or** – 1 - 2 hours at 80°C / 176°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 his application.

Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	25°C / 77°F	400	volts / mil
Dielectric Constant	ASTM D150	100 Hz @ 25°C / 77°F	4.4	
		1 kHz @ 25°C / 77°F	4.3	
		1 MHz @ 25°C / 77°F	3.9	
Dissipation Factor	ASTM D150	100 Hz @ 25°C / 77°F	0.08	
		1 kHz @ 25°C / 77°F	0.02	
		1 MHz @ 25°C / 77°F	0.01	
Volume Resistivity	ASTM D257	25°C / 77°F	8.0 x 10 ¹⁴	ohm-cm
Surface Resistivity	ASTM D257	25°C / 77°F	3.0 x 10 ¹⁷	ohm

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Typical Physical Properties

Property	Test Method	Conditions	Value	Units
Color		25°C / 77°F	Black or Tan	
Specific Gravity	ASTM D792	25°C / 77°F	1.6	
Shore Hardness	ASTM D2240	25°C / 77°F	D 80	
Tensile Strength	ASTM D412	25°C / 77°F	5,500	psi
Compressive Strength		25°C / 77°F	10,400	psi
Linear Shrinkage	ASTM D2566	25°C / 77°F	0.1	%
Glass Transition Temp. (T _g)			50	°C
Coefficient of Thermal Expansion	ASTM E831		22	ppm / °C
Thermal Conductivity	ASTM D5930		0.8	W / m·K
Flammability	UL94	3 mm	V-0	

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

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