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PNU-46201

UL RECOGNIZED ENCAPSULANT/ADHESIVE

The two component polyurethane compound described in this data sheet is specifically designed for the encapsulation by casting of completed circuit board. The cured material meets the flammability requirements of UL 94, V-O at thickness of 0.070 in. and greater (UL File Number E116296) and provides long term circuit protection from -55ºC. to 125ºC.. The material bonds well to most metals, ceramics and plastics as well as to epoxy and paper phenolic circuit boards and, when necessary, allows repair by cutting away material in the area of the affected component, replacing the component and repotting.

* LOW SHRINKAGE DURING CURE
* EXCELLENT FLEXIBILITY AT LOW AND HIGH TEMPERATURE
* EXCELLENT FLOW BEFORE AND DURING CURE
* WATER WHITE COLOR AND SMOOTH SURFACE AFTER CURE
* EXCELLENT HEAT RESISTANCE
* ROOM TEMPERATURE REPAIRABILITY
* EXCELLENT ADHESION TO MOST SUBSTRATES WITHOUT PRIMERS
* FLAME RETARDANT
* EXCELLENT HUMIDITY RESISTANCE

TYPICAL PROPERTIES
Uncured, Mixed System

Mix Ratio By Weight	100	Part A \ 15.4 Part B
By Volume	6.5	Part A \ 1.0 Part B
Viscosity At 77ºF.	Approx. 30,000 Cp	
Pot Life At 77ºF.	>1hr. Viscosity Double	

RECOMMENDED CURE CYCLES: 24-48 Hr./RT (77ºF.) or 3 Hr./180ºF. or 2 Hr./212ºF. or 1/2 Hr/250ºF.

CURED (2 Hour at 212ºF)

Specific Gravity	1.2
Hardness, Shore (ASTM A 2240, Note 8)	A/45/1, A/45/10
Color	Water White
(May be modified to meet your requirements)	
Glass Transition Temperature, ºF.	-40
% Linear Shrinkage on Cure	1.4
Heat Resistance (Aged 1 week at 250ºF.)	
%Weight Loss	1.0
Hardness	A/45/1, A/45/10
Steam Resistance (Aged 1 week at 5PSI Sat. Steam)	
% Weight Change	+1.3
Hardness	A/45/1, A/45/10
Flammability (1/16”-1/2”)	VO

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ELECTRICAL PROPERTIES

Dielectric Constant	
1.0kHz	7.60
100.0kHz	6.85
Dissipation Factor	
1.0kHz	0.051
100.0kHz	0.124
Volume Resistivity (DC), Ohm-cm	
10 V	4.7×10^{12}
100 V	1.5×10^{12}
500 V	8.3×10^{11}

APPLICATION INSTRUCTIONS

PNU 46201 contains no MDI or TDI and all active isocyanate is polymeric in nature. Neither Part A nor Part B should be exposed to ambient air for prolonged periods of time, and the containers should be covered when not in use. If the components are to be used in a continuous mixer, the feed tanks should be vented through a desiccated air vent or dry Nitrogen.
Components to be encapsulated should be clean and dry, and should not be contaminated with solder flux, silicone grease or other uncured materials.

For evaluation or small production runs, warm 100 g of Part A to 35ºC. (95ºF) and mix thoroughly with 15.4 g of Part B in a metal or plastic container (no more than 1/3 full) with a metal or plastic spatula. Degas for 10 to 15 minutes at 0.5mmHg or less. This step gets rid of air that was incorporated during mixing and can be eliminated in actual production if meter mix machines are used. Cure per instructions above.

Alternate cures are: 24-48 Hrs. at RT (>77ºF.)
3 Hrs. at 180ºF. or
1/2 Hr. at 250ºF (Forced Convection Oven).

The information contained in this data sheet corresponds to the present state of our knowledge; it is intended for your guidance but we are not bound by it since we are not in a position to exercise control over the manner in which our products are used. Moreover, the attention of the user is drawn to the risks that could possibly occur should a product be used for an application other than that for which it is intended.

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