

# Leepoxy Plastics, Inc.

3706 W. Ferguson Rd., Fort Wayne, IN 46809

Phone: (260) 747-7411 Fax: (260) 747-7413

## TECHNICAL BULLETIN LEECAST U23130-5

### Description

LEECAST U23130-5 is a unique urethane system that contains neither MOCA nor TDI. LEECAST U23130-5 is designed to provide excellent dielectric properties over a wide temperature range. It has good low temperature flexibility and is ideally suited for protecting pressure sensitive glass diodes and other electronic devices. Its low viscosity and long pot life make it attractive for penetrating complex modules and for the aggregate casting method of encapsulation and potting. LEECAST U23130-5 also features excellent reversion resistance or hydrolytic stability.

TYPICAL PROPERTIES		
	Part A	Part B
Appearance	Black liquid	Amber liquid
Viscosity @ 25°C, cps.	2000	30
Density, lbs./gal.	7.5	10.3
Shelf Life, months	12	4

### Handling and Mixing

LEECAST U23130-5 may be mixed and poured at room temperature without de-airing. Air bubbles mixed into the system will rise out of the liquid before gellation. A typical cure cycle is overnight at 25°C plus 2 hours at 80°C or 72 hours at 25°C.

TYPICAL HANDLING PROPERTIES		
	Part A	Part B
Mix Ratio, by weight,	100	16
Gel Time @ 25°C, 100 g, min	45 – 60	
Cure Time @ 25°C, hours	72	

TYPICAL PERFORMANCE	
Hardness, Shore A	
@ -40°C	65
@ 25°C	45
@ 85°C	30
Tensile Strength @ 25°C, psi	350
Tensile Modulus, psi, -40°C	
@ 10% elongation	75
@ 50% elongation	260
Tensile Elongation, %	
@ -40°C	>50
@ 25°C	400
Tear Strength, Die C, PLI, 25°C	35
Thermal Conductivity, cal/cm <sup>2</sup> /cm/°C/sec	3.4 x 10 <sup>-4</sup>
Dielectric Constant @ 100 KHZ	
@ 25°C	2.34
@ 85°C	2.51
Dissipation Factor @ 100 KHZ	
@ 25°C	0.011
@ 85°C	0.019
Volume Resistivity, ohm-cm	
@ 25°C	1.3 x 10 <sup>14</sup>
@ 85°C	8.9 x 10 <sup>11</sup>
Weight Loss, 500 hours @ 85°C, %	2.8
Weight Loss, 500 hour @ 110°C, %	4.2
Hardness Change, 1000 hours @ 56°C, Shore A	+3

<b>TYPICAL PERFORMANCE</b>	
Resistance to Boiling Water, 170 hours	
Weight Change, %	0.27
Hardness Change, Shore A	-8

**Safety**

LEECAST U23130-5 Part B is a super cooled liquid and may crystallize. Store at 75–95°F. If crystallization occurs, heat quickly to 120°F in a vented 220°F oven. Do not overheat. Avoid skin contact and do not inhale vapors. Always use product in a well-ventilated area.

<b>CHEMICAL RESISTANCE TESTS EXPOSURE 24 HOURS @ 100°F</b>			
Chemical	Tensile Properties Change	Hardness Change, Shore A	Weight Change, %
Sulfuric Acid, 3%	No Change	-1	+0.019
Sodium Hydroxide, 0.2 N	No Change	-1.5	+0.027
Sodium Chloride, 5%	No Change	No Change	+0.062
Sodium Carbonate, 0.1 N	No Change	-1	+0.073
Acetic Acid, 5%	No Change	-2	+0.156

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