LiPOLY®
SHIU LI TECHNOLOGY CO.,LTD

N-putty5

Non-Silicone Thermal Conductive Putty

LiPOLY N-putty5 is a non-silicone thermally conductive material without volatilization of low molecular weight siloxanes and with low total volatile gas. With a thermal conductivity of 9.0 W/m·K, its high deformation capability can perfectly fill small air gaps to eliminate tolerances. It can also overcome spillage and drying issues to maintain stable thermal conductivity, making it ideal for dispensing with dispensing robots. LiPOLY N-putty5 meets the requirements of ASTM E595, making it highly suitable for applications requiring high cleanliness and high reliability.

FEATURES

/ Thermal conductivity:9.0 W/m·K
/ Bond line thickness:100~1500μm
/ Non-silicone resin materials
/ Designed to remove manufacturing tolerances
/ Does not produce stress on delicate components
/ No vertical flow
/ Dispensable for serial manufacture
/ For any high compression and low stress application

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ High speed mass storage drives
/ Telecommunication hardware
/ Flat-panel displays
/ Set-top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

/ Cartridges: 30ml, 55ml, 330ml
/ Bucket: 1kg, 25kg

PRESERVATION

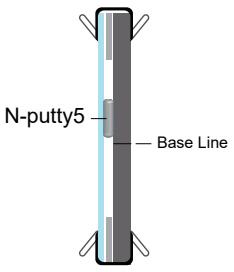
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	N-putty5	UNIT	TEST METHOD
Color	Gray	-	Visual
Resin base	Non-Silicone	-	-
Viscosity	25000	Pa.s	DIN 53018
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	11	g/min	Internal Test Method
Density	3.3	g/cm³	ASTM D792
Application temperature	-60~150	°C	-
Bond line thickness	100~1500	μm	-
Shelf life	60 months	-	-
Total Mass Loss	≤ 1.0	%	ASTM E595
Collected Volatile Condensable Materials	≤ 0.10	%	ASTM E595
Water Vapor Regained	≤ 0.02	%	ASTM E595
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	KV/mm	ASTM D149
Volume resistivity	$>10^{13}$	Ohm-m	ASTM D257
THERMAL			
Thermal conductivity	9.0	W/m·K	ASTM D5470
Thermal impedance@10psi / 80°C	0.036	°C-in²/ W	ASTM D5470
Thermal impedance@30psi / 80°C	0.032	°C-in²/ W	ASTM D5470
Thermal impedance@50psi / 80°C	0.029	°C-in²/ W	ASTM D5470

VERTICAL RELIABILITY

Using 1.5mm pad as a gap control, put the putty between the aluminum and the glass panel mark the initial position. Then, place it in the oven with 125℃ for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing