

# **NEP220**

# Non-Silicone Two-Part Thermal Conductive Adhesive

LiPOLY NEP220 is a silicone-free two-part liquid gap filler that does not volatilize low-molecular-weight siloxane. With high viscosity and good adhesion, it can be fast cured at room temperature or elevated temperature. With a thermal conductivity of 2.2 W/m\*K, NEP220 provides high thermal conductivity and low thermal impedance. It is ideally suited for dispensing using the dispensing robot or by syringe.

## **FEATURES**

- / Thermal conductivity: 2.2 W/m\*K
- / Can be applied with dispenser
- / Room Temperature curing or heating curing
- / Low compression stress during assembly
- / Excellent adhesion to metal & PCB

#### TYPICAL APPLICATION

- / Electronic components: IC \ CPU MOS \ Mother Board \ Wireless Hub Telecom Device \ Automotive electronics \ Computer \ Peripherals and High frequency magnetic inductor
- / Between any heat-generating component and a heat sink.
- / 5G base station & infrastructure
- / EV electric vehicle

## **CONFIGURATIONS**

- / Cartridges:50ml, 400ml
- / Other special and custom sizes are available upon request

#### PRESERVATION

It can be preserved for 60 months under the condition of unopened and under room temperature 30°C. (Note:The product may experience oil-powder separation after being stored for an extended period, which is a natural sedimentation phenomenon caused by the density difference between silicone oil and powder. This does not affect its functionality and can be used as normal. It is recommended to stir the product evenly before use.)

# **TYPICAL PROPERTIES**

PROPERTY	NEP220	TEST METHOD	UNIT
Color	Black Gray (A part) Black (B part)	Visual	-
Resin base	Ероху	-	-
A:B	100:100	-	-
Viscosity A	170	ISO 3219	Pa.s
Viscosity B	167	ISO 3219	Pa.s
Thixotropic Index	3.4	ISO 3219	-
Density	2.6	ASTM D792	g/cm³
Application temperature	-40~120	-	°C
Surface dry	25°C / 1.5 hr	By LiPOLY	-
Curing condition1	25°C / 3.5 hr	By LiPOLY	-
Curing condition2	40°C / 1.5 hr	By LiPOLY	-
Curing condition3	60°C / 30 min	By LiPOLY	-
Curing condition4	80°C / 10 min	By LiPOLY	-
Hardness	90	ASTM D2240	Shore A
Elongation at break	<1	ISO527	%
Tensile strength	65	ISO527	N/cm <sup>2</sup>
Lap shear to aluminum	350	ASTM D1002	N/cm <sup>2</sup>
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	14	ASTM D149	KV/mm
Volume resistivity	>1011	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.2	ISO 22007-2	W/m*K



Note: All specifications provided by LiPOLY are subject to change without notice. The test methods used by LiPOLY are based on the TIM Tester method and ASTM D5470 test method. These test methods are used as the definition standards for LiPOLY. Property values provided in this document are not for product specifications or guaranteed. This document does not guarantee the performance and quality required for the purchaser's specific ourpose. The purchaser needs to evaluate and verify the start by before using the material. We strongly recommend the purchaser pretest the product and verify the performance of the product target's specific conditions. Liability and use of the product are the responsibility of the end user. LiPOLY makes no warranty as to the suitability, merchantability, or non-infringement of any LiPOLY material or product for any specific or general uses. LiPOLY shall not be liable for incidental orconsequential damages of any kind. All LiPOLY products are sold in accordance with the LiPOLY Terma and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All inplicates. LiPOLY trademarks or registered trademarks of LiPOLY or its affiliates. Statements concerning possible or suggested uses made herein shall not be relied upon or be constructed as a guaranty of patent infringement. Copyright LiPOLY