

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 | Epoxy | - | - |
| 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/cm ³ |
| 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 ² |
| Lap shear to aluminum | 350 | ASTM D1002 | N/cm ² |
| Shelf life | 60 months | - | - |
| ROHS & REACH | Compliant | - | - |
| ELECTRICAL | | | |
| Dielectric breakdown | 14 | ASTM D149 | KV/mm |
| Volume resistivity | >10 ¹¹ | ASTM D257 | Ohm-m |
| THERMAL | | | |
| Thermal conductivity | 2.2 | ISO 22007-2 | W/m*K |

