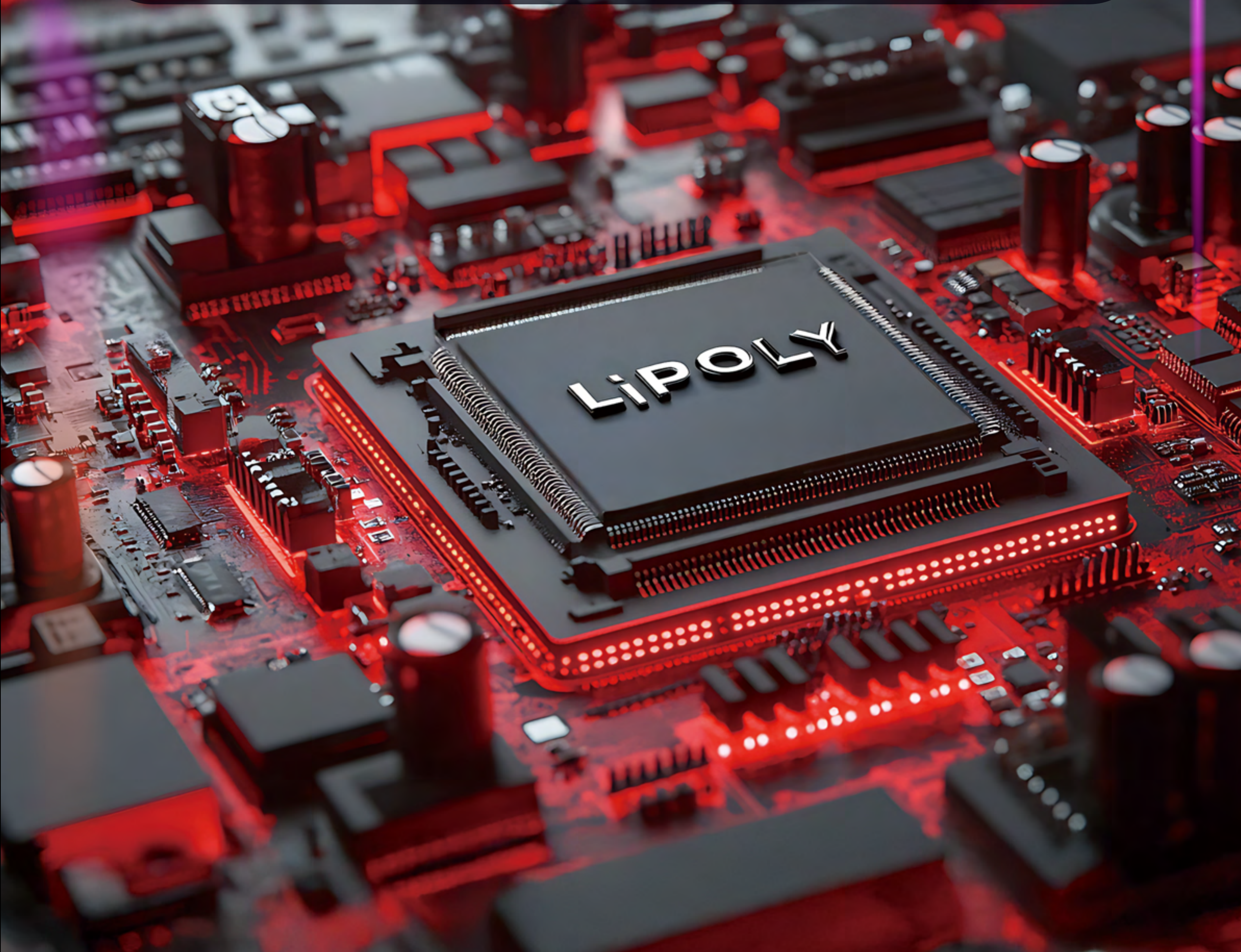
SHIU LI TECHNOLOGY CO.,LTD

旭立科技股份有限公司

PROFESSIONAL TIM MANUFACTURER

THERMAL INTERFACE MATERIALS



LiPOLY®
SHIU LI TECHNOLOGY CO.,LTD

SHIU LI TECHNOLOGY

Shiu Li Technology (LiPOLY) is a professional manufacturer specializing in high-performance thermal interface materials (TIMs). Backed by a team of experts in industry, chemistry, materials science, and process engineering, we offer customized thermal solutions to meet diverse and evolving customer needs.

With over 20 years of technical collaboration with ITRI (Industrial Technology Research Institute) in Hsinchu, Li POLY has established advanced R&D and reliability testing labs, Class 1000 cleanroom facilities, and automated production lines ensuring high technical capability, quality, and yield. We hold more than 20 global patents and continue to expand our intellectual property portfolio to safeguard customer interests and demonstrate our innovation strength.

Our products are certified to international standards, including RBA, IATF 16949, IECQ QC 080000, ISO 9001:2015, RoHS, REACH, and UL. With a strong commitment to quality and compliance, we deliver reliable performance and trusted solutions worldwide.

RBA IATF 16949 ISO 14001 ISO 9001 UL IECQ080000 RoHS compliant

//HEADQUARTER

SHIU LI TECHNOLOGY CO ., LTD
No.435, Yongfeng Rd., Bade Dist., Taoyuan
City 33455, Taiwan(R.O.C.)

- **Management Center**
- **Production Center**
- **R&D Center**
- **Sales Center**

TEL : +886-3-3788588
FAX : +886-3-3788288
service@lipoly.com

//BRANCH OFFICE

/ NIHON KYOKURITSUKAGI CO., LTD
TOKYO OFFICE

6F, Nihonbashi Mizuno Bldg. 1-11-12,
Nihonbashi-Muromachi, Chuo-ku, Tokyo 103-0022

/ NIHON KYOKURITSUKAGI CO., LTD
OSAKA OFFICE

4F, TR Building, 2-1 Kogicho, Kaizuka City,
Osaka Prefecture 597-0001

/ KUNSHAN LIPOLY ELECTRONICS CO., LTD

Building A1,398 Hengchangjing Road, Zhouzhen,
Kunshan, Jiangsu province

/ SHENZHEN DONGBAOLI ELECTRONICS CO., LTD

13F, Quanzhi Science and Technology Innovation
Park, Hooting, Shajing Street, Baoan District,
Shenzhen

/ U.S. OFFICE

550 N. Brand Blvd. 14F, Glendale, CA 91203 USA

/ VIETNAM SHIU LI TECHNOLOGY CO., LTD

Factory A6-1, Lot 6, Cam Dien – Luong Dien Industrial Park, Luong Dien Commune, Cam Giang District,
Hai Duong Province, Vietnam

PRODUCT INDEX

Thermal Conductive Gap Pad Series

Silicone Thermal Conductive Gap Pad

• High Thermal Conductive Gap Filler

• Thermal Conductive Gel Pad

• Thermal Conductive Gap Pad

• Exceptionally Soft Thermal Conductive Gel Pad

• Ultra Low Oil-Bleed Thermal Conductive Gel Pad

• High Ductile Thermal Conductive Pad

• Ultra Thin Thermal Flim

PRODUCT INDEX

Thermal Conductive Gap Pad Series

Non-Silicone Thermal Conductive Gap Pad

• Non-Silicone Thermal Conductive Pad

Thermal Liquid Gap Filler Series

Silicone Liquid Gap Filler

• Thermal Conductive Putty

• Two-Part Thermal Conductive Gap Filler

• Two-Part Thermal Conductive Sealing Glue

• Two-Part Thermal Conductive Die Attach Adhesive

• Two-Part Curable Thermal Grease

• Thermal Grease

PRODUCT INDEX

Thermal Liquid Gap Filler Series

Non-Silicone Liquid Gap Filler

• Non-Silicone Thermal Conductive Putty

• Non-Silicone Two-Part Thermal Conductive Adhesive

• Non-Silicone Two-Part Thermal Conductive Sealing Glue

• Non-Silicone Thermal Grease

Thermal Conductive Absorber Series

Silicone Thermal Conductive Absorber

• Thermal Conductive RF Absorber Pad

• Thermal Conductive RF Absorber Film

• 5G mmWave Thermal Conductive Gel Pad

Non-Silicone Thermal Conductive Absorber

• Non-Silicone Thermal conductive RF Absorber Pad

PRODUCT INDEX

Thermal Conductive Tape Series

Silicone Thermal Conductive Tape

• UL Flammability Thermal Conductive Tape

• High Temperature Thermal Conductive Tape

Non-Silicone Thermal Conductive Tape

• UL Flammability Thermal Conductive Tape

• Insulated Thermal Conductive Tape

Insulated Thermal Conductive Series

High Insulated Thermal Conductive Film

High Insulated Thermal Conductive Pad

Thermal Conductive Rubber Cap/Tube

PRODUCT INDEX

Lightweight Thermal Conductive Series

Silicone Lightweight Thermal Conductive Products

• Lightweight Thermal Conductive Gel Pad

• Lightweight Thermal Conductive Putty

• Lightweight Thermal Conductive Sealing Glue

Non-Silicone Lightweight Thermal Conductive Products

• Non-Silicone Lightweight Thermal Conductive Putty

Thermal Graphite Sheet Series

Composite Graphite Sheet

Graphite Sheet

Thermal Break Sheet Series

Thermal Break Sheet

General table of thermal conductivity coefficient

● Silicon products ● Non-Silicone products ● Non-Silicone Lightweight products

Thermal conductivity (W/m*K)	Thermal Conductive Gap Pad Series	Thermal Liquid Gap Filler Series	Thermal Conductive Absorber Series	Thermal Conductive Tape Series	Insulated Thermal Conductive Series	Lightweight Thermal Conductive Series	Thermal Break Sheet
0.009							AS27-s
0.028							AS17-s AS28-s
0.55						TPS31	
0.8		TPS589			SP-23 TP200		
0.9				AT900A			
1.0				AT910			
1.2				AT900C ST6000F			
1.3		G3380A G3380NA					
1.5		TPS586	Ti900-s		SH1500	TPS32	
1.8				ST6000-S	PR27		
2.0	PK223 AS200-s	D2000 TIM12	TEM96A NT92		SH2000		
2.2	S393	PK223DM NEP220					
2.5	S282-s N700A	EP770			PR28-s HC-93		
3.0	BS75K-s BS87-s N700B	TPS5868 NEP230	TEM96B NT93 DTT44-s		SH3000	DTT44-s	
3.2	S818	G3380B G3380NJ					
3.5		S-putty H-putty N-putty		AT920-s			
3.6		PK404DM					
4.0	PK404 AS400-s	TIM14	TEM96C NT94			DTT04-s NL-putty04	
4.5	AS02-s	G3380K G3380NK			DCTP140-s		
5.0	PK504 BS89-s N700C AS50-s	N-putty2 PK605DM	DTT65-s TEM96D			DTT65-s	
6.0	PK605	S-putty2-s H-putty2 TT3000 G3380T G3380NT	TEM96E			DTT06-s NL-putty06	
7.0	PK700 N800AH-s	PK700DM N-putty3					
8.0	T-top81-s	SH-putty3					
9.0	N800A-s	N-putty5					
10.0		S-putty5-s				DTT10-s NL-putty10	
11.0	T-work7000 N800BH						
13.0	T-top91-s N800B	DTT13-s					
15.0	T-work8000 N800CH						
17.0	N800C						
18.0	T-top98-s						
20.0	T-work9000						
24.0	T-top99-s						

Thermal Conductive Gap Pad Series

Silicone Thermal Conductive Gap Pad

High Thermal Conductive Gap Pad
T-top81-s / T-work7000 / T-top91-s / T-work8000 / T-top98-s / T-work9000 / T-top99-s

T series is an extremely high-performance thermally conductive pad, with excellent insulation, compressibility, and soft characteristics that can fill gaps exhibit a very low thermal resistance effect. They can be customized die-cut and shape molding. Shiu Li has professional research and development capabilities which can provide cutting-edge thermal solutions immediately to meet all customers' need for today's advanced products.

Thermal Conductive Gel Pad
PK223 / PK404 / PK504 / PK605 / PK700

PK series is an excellent gap filler material with thermal conductivity 2.0~7.0 W/m*K. The hardness is Shore OO/30~60 with high flexibility, high compressibility, high insulating, great self-adhesive, which can remove manufacturing tolerances. Customized die-cut and shape molding are all available.

Thermal Conductive Gap Pad
S282-s / AS50-s

S282-s and AS50-s series are thermal pads specifically designed for gap-filling applications, featuring a thermal conductivity of 2.5~5.0 W/m*K.These pads incorporate a glass fiber reinforcement layer, providing excellent self-adhesive properties that allow them to conform closely to non-flat heat sinks, thereby increasing the contact area. They are also superior insulating materials, offering low-stress performance, vibration damping, and shock absorption characteristics.

Exceptionally Soft Thermal Conductive Gel Pad
BS75K-s / BS87-s / BS89-s

BS series is an ultra-soft thermally conductive gel pad with high resilience characteristics which can avoid the deformation of PCB and other components caused by assembly stress. Thermal conductivity: 3.0~5.0 W/m*K and hardness Shore OO/10~25 provide high flexibility, high compressibility, high insulation and good self-adhesiveness. It can cover the tolerance of design making it very stable, also can offer customized die-cut & shape molding service.

Ultra Low Oil-Bleed Thermal Conductive Gel Pad
AS200-s / AS400-s

AS series has low oil-bleeding characteristics under high compression which can prevent the product from polluting electronic components due to silicon oil seepage, or combining with dust in the environment, causing dirt and affecting product appearance. It's a best choice of gap filler material with thermal conductivity: 2.0~4.0 W/m*K. Hardness Shore OO/30~40 provides flexibility, compressibility and insulation. Shiu Li has professional research and development capabilities which can provide cutting-edge thermal solutions immediately to meet all customers' need for today's advanced products.

Thermal Conductive Gap Pad Series

Silicone Thermal Conductive Gap Pad

High Ductile Thermal Conductive Pad
S393 / S818

S393&S818 is a product with high ductile thermal conductivity. Having good stretchability and high deformation. The toughness structure can enhance the operability and durability of material. It won't easy to break and deform whether stamped, punched, strip type, or custom cutting. Your best choice for shock and tolerance absorbing.

Ultra Thin Thermal Film
AS02-s

AS02-s is a material with double sided inherent tack, low thermal resistance and high thermal conductivity. It has excellent compressive strength characteristics and good electrical isolation function for high-power electronic components, making it the best choice for thin design installation. Customized Die-Cut and molding are available.

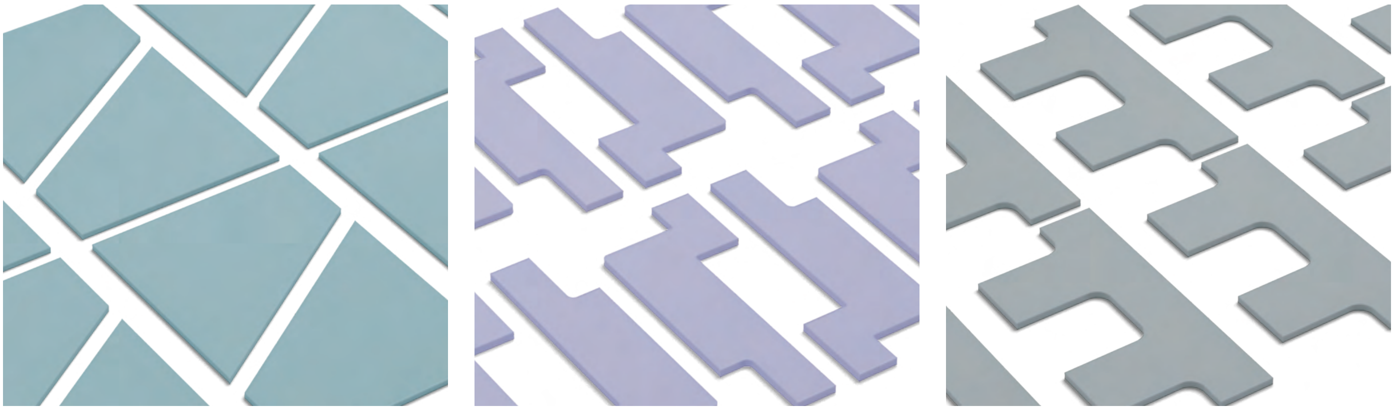
Non-Silicone Thermal Conductive Gap Pad

Non-Silicone Thermal Conductive Pad
N700A / N700B / N700C / N800AH-s / N800A-s / N800BH / N800B N800CH / N800C

N series is silicone free resin material. None low-molecular- weight siloxane volatilization cause no electrical contact failure. It is suitable for optical products or sensitive electronic components. Thermal conductivity : 2.5~17.0 W/m*K. Hardness Shore OO/50~60 has good thermal conductivity and exhibits the lowest thermal resistance value, especially the thermal conductivity of N800C is as high as 17.0 W/m*K. Shiu Li has professional research and development capabilities which can provide cutting-edge thermal solutions immediately to meet all customers' need for today's advanced products.

What is low-molecular-weight siloxane?

The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane Ho-[Si(CH$_3$)$_2$O]n-H is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.



T-top81-s

High Thermal Conductive Gap Filler

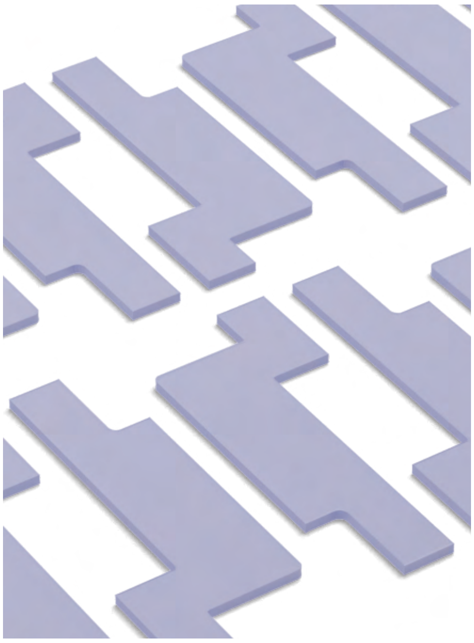
LiPOLY T-top81-s offers outstanding thermal conductivity at 8.0 W/m*K and extremely low thermal resistance under minimal force.
T-top81-s offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

FEATURES

/ Thermal conductivity: 8.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip



CONSTRUCTION

Series	Characteristics	Configurations
T-top81-s	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-top81-s	TEST METHOD	UNIT
Color	Purple	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.4	ASTM D792	g/cm³
Hardness	50	ASTM D2240	Shore OO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	7	ASTM D5470 modify	%
Deflection @20 psi	20	ASTM D5470 modify	%
Deflection @30 psi	43	ASTM D5470 modify	%
Deflection @40 psi	64	ASTM D5470 modify	%
Deflection @50 psi	68	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	10.2	ASTM D150	-
Dielectric constant@1GHz D_k	10.1	ASTM D150	-
Dielectric constant@1.8GHz D_k	10.8	ASTM D150	-
Dissipation factor@10MHz D_f	0.006	ASTM D150	-
Dissipation factor@1GHz D_f	0.002	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.021	ASTM D150	-
THERMAL			
Thermal conductivity	8.0	ASTM D5470	W/m*K
Thermal conductivity	5.5	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.260	ASTM D5470	°C-in²/ W
Thermal impedance@20psi	0.221	ASTM D5470	°C-in²/ W
Thermal impedance@30psi	0.148	ASTM D5470	°C-in²/ W
Thermal impedance@40psi	0.122	ASTM D5470	°C-in²/ W
Thermal impedance@50psi	0.112	ASTM D5470	°C-in²/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in²/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.260	0.427	0.613	7	13	16
20	0.221	0.344	0.372	20	30	56
30	0.148	0.212	0.227	43	58	69
40	0.122	0.156	0.182	64	76	85
50	0.112	0.133	0.148	68	80	89

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.260	0.261	0.260	0.261	0.262
	30	0.148	0.148	0.149	0.149	0.150
	50	0.112	0.113	0.114	0.113	0.115

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.260	0.261	0.262	0.261	0.262
	30	0.148	0.149	0.150	0.149	0.151
	50	0.112	0.114	0.113	0.113	0.114

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.260	0.260	0.259	0.260	0.259
	30	0.148	0.149	0.148	0.149	0.149
	50	0.112	0.113	0.112	0.112	0.111

Test Property	Compression Force (psi)	-40°C (30min) ⟷ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.260	0.260	0.261	0.260	0.261	0.261
	30	0.148	0.149	0.148	0.150	0.149	0.150
	50	0.112	0.113	0.112	0.113	0.113	0.114

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.260	0.260	0.261	0.260	0.261	0.260
	30	0.148	0.147	0.148	0.147	0.148	0.148
	50	0.112	0.111	0.112	0.112	0.112	0.111

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in²/W

LiPOLY® SHIU LI TECHNOLOGY CO.,LTD

T-work7000

High Thermal Conductive Gap Filler

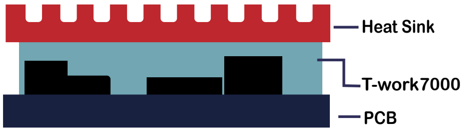
LiPOLY T-work7000 offers outstanding thermal conductivity at 11.0 W/m*K and extremely low thermal resistance under minimal force. T-work7000 offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

FEATURES

/ Thermal conductivity: 11.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip



CONSTRUCTION

Series	Characteristics	Configurations
T-work7000	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-work7000	TEST METHOD	UNIT
Color	Gray Green	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.4	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore OOO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	14	ASTM D5470 modify	%
Deflection @20 psi	24	ASTM D5470 modify	%
Deflection @30 psi	47	ASTM D5470 modify	%
Deflection @40 psi	55	ASTM D5470 modify	%
Deflection @50 psi	59	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	10.4	ASTM D150	-
Dielectric constant@1GHz D_k	10.4	ASTM D150	-
Dielectric constant@1.8GHz D_k	11.6	ASTM D150	-
Dissipation factor@10MHz D_f	0.007	ASTM D150	-
Dissipation factor@1GHz D_f	0.001	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.021	ASTM D150	-
THERMAL			
Thermal conductivity	11.0	ASTM D5470	W/m*K
Thermal conductivity	6.5	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.223	ASTM D5470	°C-in^2/ W
Thermal impedance@20psi	0.202	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi	0.140	ASTM D5470	°C-in^2/ W
Thermal impedance@40psi	0.119	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	0.108	ASTM D5470	°C-in^2/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in²/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.223	0.388	0.579	14	15	16
20	0.202	0.327	0.341	24	34	57
30	0.140	0.200	0.216	47	60	71
40	0.119	0.146	0.172	55	69	77
50	0.108	0.127	0.139	59	73	81

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.223	0.224	0.223	0.224	0.225
	30	0.140	0.141	0.141	0.141	0.142
	50	0.108	0.110	0.109	0.109	0.111

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.223	0.224	0.225	0.224	0.225
	30	0.140	0.142	0.143	0.142	0.143
	50	0.108	0.110	0.111	0.109	0.108

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.223	0.222	0.223	0.222	0.221
	30	0.140	0.141	0.142	0.149	0.141
	50	0.108	0.109	0.108	0.108	0.107

Test Property	Compression Force (psi)	-40°C (30min) ←→ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.223	0.223	0.224	0.223	0.224	0.223
	30	0.140	0.142	0.141	0.142	0.143	0.143
	50	0.108	0.109	0.110	0.110	0.109	0.110

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.223	0.222	0.223	0.223	0.224	0.223
	30	0.140	0.141	0.142	0.142	0.143	0.141
	50	0.108	0.111	0.109	0.110	0.109	0.110

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in²/W

T-top91-s

High Thermal Conductive Gap Filler

LiPOLY T-top91-s offers outstanding thermal conductivity at 13.0 W/m*K and extremely low thermal resistance under minimal force.
T-top91-s offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

FEATURES

/ Thermal conductivity: 13.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip

CONSTRUCTION

Series	Characteristics	Configurations
T-top91-s	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-top91-s	TEST METHOD	UNIT
Color	Gray Green	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.4	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore OOO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	11	ASTM D5470 modify	%
Deflection @20 psi	38	ASTM D5470 modify	%
Deflection @30 psi	59	ASTM D5470 modify	%
Deflection @40 psi	69	ASTM D5470 modify	%
Deflection @50 psi	76	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	9.9	ASTM D150	-
Dielectric constant@1GHz D_k	9.8	ASTM D150	-
Dielectric constant@1.8GHz D_k	11.4	ASTM D150	-
Dissipation factor@10MHz D_f	0.007	ASTM D150	-
Dissipation factor@1GHz D_f	0.004	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.024	ASTM D150	-
THERMAL			
Thermal conductivity	13.0	ASTM D5470	W/m*K
Thermal conductivity	8.0	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.201	ASTM D5470	°C-in^2/ W
Thermal impedance@20psi	0.159	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi	0.103	ASTM D5470	°C-in^2/ W
Thermal impedance@40psi	0.084	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	0.075	ASTM D5470	°C-in^2/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in^2/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.201	0.355	0.418	11	17	23
20	0.159	0.290	0.283	38	40	64
30	0.103	0.169	0.183	59	64	79
40	0.084	0.141	0.156	69	73	82
50	0.075	0.118	0.126	76	75	85

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.201	0.201	0.201	0.202	0.202
	30	0.103	0.103	0.104	0.103	0.104
	50	0.075	0.075	0.075	0.076	0.076

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.201	0.201	0.202	0.202	0.202
	30	0.103	0.103	0.104	0.103	0.105
	50	0.075	0.075	0.076	0.077	0.077

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.201	0.201	0.202	0.202	0.202
	30	0.103	0.103	0.104	0.103	0.104
	50	0.075	0.075	0.075	0.076	0.076

Test Property	Compression Force (psi)	-40°C (30min) ⟷ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.201	0.202	0.202	0.203	0.203	0.203
	30	0.103	0.103	0.104	0.104	0.105	0.105
	50	0.075	0.075	0.075	0.076	0.075	0.076

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.201	0.202	0.202	0.203	0.203	0.202
	30	0.103	0.103	0.103	0.104	0.104	0.104
	50	0.075	0.075	0.076	0.076	0.075	0.076

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in^2/W

T-work8000

High Thermal Conductive Gap Filler

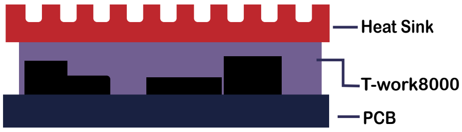
LiPOLY T-work8000 offers outstanding thermal conductivity at 15.0 W/m*K and extremely low thermal resistance under minimal force. T-work8000 offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

FEATURES

/ Thermal conductivity: 15.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip



CONSTRUCTION

Series	Characteristics	Configurations
T-work8000	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-work8000	TEST METHOD	UNIT
Color	Purple	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore OOO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	10	ASTM D5470 modify	%
Deflection @20 psi	42	ASTM D5470 modify	%
Deflection @30 psi	64	ASTM D5470 modify	%
Deflection @40 psi	71	ASTM D5470 modify	%
Deflection @50 psi	79	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	9.4	ASTM D150	-
Dielectric constant@1GHz D_k	9.3	ASTM D150	-
Dielectric constant@1.8GHz D_k	10.3	ASTM D150	-
Dissipation factor@10MHz D_f	0.006	ASTM D150	-
Dissipation factor@1GHz D_f	0.009	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.028	ASTM D150	-
THERMAL			
Thermal conductivity	15.0	ASTM D5470	W/m*K
Thermal conductivity	9.0	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.185	ASTM D5470	°C-in^2/ W
Thermal impedance@20psi	0.122	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi	0.074	ASTM D5470	°C-in^2/ W
Thermal impedance@40psi	0.054	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	0.046	ASTM D5470	°C-in^2/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in²/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.185	0.293	0.335	10	20	41
20	0.122	0.167	0.174	42	60	72
30	0.074	0.106	0.115	64	74	82
40	0.054	0.076	0.083	71	82	87
50	0.046	0.059	0.064	79	86	90

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.185	0.183	0.184	0.185	0.187
	30	0.074	0.076	0.076	0.075	0.077
	50	0.046	0.048	0.047	0.046	0.048

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.185	0.186	0.187	0.186	0.187
	30	0.074	0.076	0.077	0.077	0.078
	50	0.046	0.048	0.047	0.047	0.048

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.185	0.186	0.185	0.184	0.183
	30	0.074	0.076	0.077	0.076	0.075
	50	0.046	0.047	0.046	0.045	0.045

Test Property	Compression Force (psi)	-40°C (30min) ⟷ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.185	0.183	0.184	0.186	0.185	0.186
	30	0.074	0.073	0.074	0.077	0.076	0.076
	50	0.046	0.047	0.045	0.048	0.047	0.047

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.185	0.186	0.185	0.184	0.185	0.186
	30	0.074	0.075	0.075	0.073	0.074	0.075
	50	0.046	0.047	0.046	0.045	0.047	0.047

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in²/W

T-top98-s

High Thermal Conductive Gap Filler

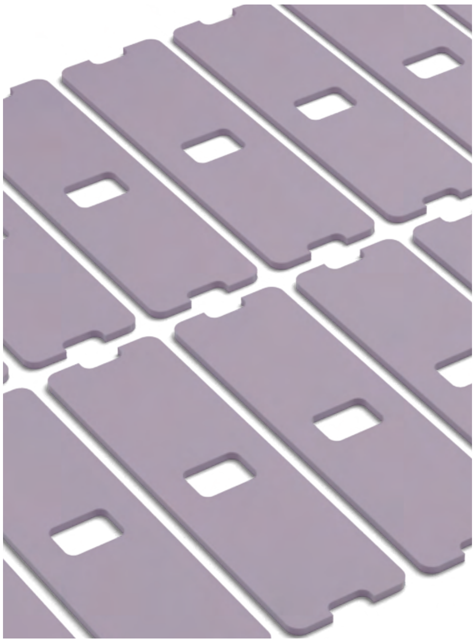
LiPOLY T-top98-s offers outstanding thermal conductivity at 18.0 W/m*K and extremely low thermal resistance under minimal force.
T-top98-s offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

FEATURES

/ Thermal conductivity: 18.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip



CONSTRUCTION

Series	Characteristics	Configurations
T-top98-s	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-top98-s	TEST METHOD	UNIT
Color	Purple	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore OOO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	11	ASTM D5470 modify	%
Deflection @20 psi	38	ASTM D5470 modify	%
Deflection @30 psi	62	ASTM D5470 modify	%
Deflection @40 psi	71	ASTM D5470 modify	%
Deflection @50 psi	77	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	10.0	ASTM D150	-
Dielectric constant@1GHz D_k	9.9	ASTM D150	-
Dielectric constant@1.8GHz D_k	10.3	ASTM D150	-
Dissipation factor@10MHz D_f	0.003	ASTM D150	-
Dissipation factor@1GHz D_f	0.007	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.025	ASTM D150	-
THERMAL			
Thermal conductivity	18.0	ASTM D5470	W/m*K
Thermal conductivity	10.5	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.149	ASTM D5470	°C-in^2/ W
Thermal impedance@20psi	0.104	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi	0.061	ASTM D5470	°C-in^2/ W
Thermal impedance@40psi	0.046	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	0.039	ASTM D5470	°C-in^2/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in^2/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.149	0.247	0.304	11	20	39
20	0.104	0.138	0.156	38	58	71
30	0.061	0.085	0.080	62	75	82
40	0.046	0.064	0.065	71	83	87
50	0.039	0.046	0.054	77	86	90

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.149	0.148	0.149	0.148	0.149
	30	0.061	0.061	0.061	0.062	0.062
	50	0.039	0.039	0.038	0.038	0.039

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.149	0.148	0.149	0.149	0.150
	30	0.061	0.061	0.061	0.062	0.062
	50	0.039	0.039	0.039	0.040	0.040

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.149	0.148	0.149	0.148	0.149
	30	0.061	0.061	0.060	0.061	0.061
	50	0.039	0.039	0.038	0.040	0.040

Test Property	Compression Force (psi)	-40°C (30min) ←→ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.149	0.148	0.149	0.148	0.149	0.148
	30	0.061	0.060	0.061	0.060	0.061	0.061
	50	0.039	0.038	0.039	0.038	0.038	0.039

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.149	0.148	0.148	0.148	0.149	0.149
	30	0.061	0.060	0.061	0.060	0.061	0.061
	50	0.039	0.039	0.038	0.039	0.040	0.040

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in^2/W

T-work9000

High Thermal Conductive Gap Filler

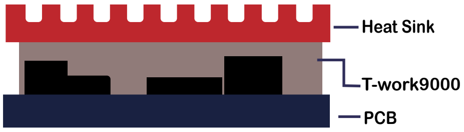
LiPOLY T-work9000 offers outstanding thermal conductivity at 20.0 W/m*K and extremely low thermal resistance under minimal force. T-work9000 offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

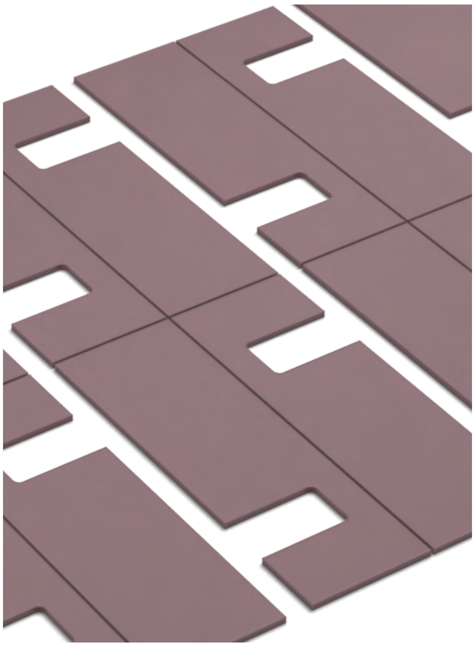
FEATURES

/ Thermal conductivity: 20.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip





CONSTRUCTION

Series	Characteristics	Configurations
T-work9000	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-work9000	TEST METHOD	UNIT
Color	Brown	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore OOO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	12	ASTM D5470 modify	%
Deflection @20 psi	27	ASTM D5470 modify	%
Deflection @30 psi	58	ASTM D5470 modify	%
Deflection @40 psi	71	ASTM D5470 modify	%
Deflection @50 psi	74	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	10.5	ASTM D150	-
Dielectric constant@1GHz D_k	10.4	ASTM D150	-
Dielectric constant@1.8GHz D_k	11.2	ASTM D150	-
Dissipation factor@10MHz D_f	0.001	ASTM D150	-
Dissipation factor@1GHz D_f	0.006	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.022	ASTM D150	-
THERMAL			
Thermal conductivity	20.0	ASTM D5470	W/m*K
Thermal conductivity	12.0	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.110	ASTM D5470	°C-in^2/ W
Thermal impedance@20psi	0.088	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi	0.050	ASTM D5470	°C-in^2/ W
Thermal impedance@40psi	0.037	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	0.031	ASTM D5470	°C-in^2/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in²/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.110	0.201	0.255	12	21	31
20	0.088	0.105	0.120	27	55	68
30	0.050	0.056	0.064	58	78	83
40	0.037	0.039	0.042	71	85	89
50	0.031	0.033	0.035	74	86	90

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.110	0.111	0.112	0.112	0.113
	30	0.050	0.051	0.052	0.052	0.053
	50	0.031	0.031	0.032	0.032	0.033

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.110	0.111	0.112	0.113	0.113
	30	0.050	0.051	0.052	0.053	0.053
	50	0.031	0.032	0.032	0.033	0.033

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.110	0.111	0.112	0.113	0.113
	30	0.050	0.051	0.052	0.053	0.053
	50	0.031	0.032	0.032	0.033	0.033

Test Property	Compression Force (psi)	-40°C (30min) ←→ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.110	0.110	0.111	0.112	0.113	0.113
	30	0.050	0.050	0.051	0.052	0.052	0.053
	50	0.031	0.032	0.031	0.032	0.032	0.033

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.110	0.110	0.111	0.110	0.111	0.110
	30	0.050	0.051	0.050	0.051	0.050	0.050
	50	0.031	0.031	0.032	0.032	0.032	0.031

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in²/W

T-top99-s

High Thermal Conductive Gap Filler

LiPOLY T-top99-s offers outstanding thermal conductivity at 24.0 W/m*K and extremely low thermal resistance under minimal force.
T-top99-s offers excellent compression, filling small air gaps on uneven surfaces, ensuring an efficient and consistent transfer of heat.

FEATURES

/ Thermal conductivity: 24.0 W/m*K
/ High compression rate
/ Extremely low thermal impedance

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Flat-panel displays
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ High-end Chip

CONSTRUCTION

Series	Characteristics	Configurations
T-top99-s	Silicone compound with weak sticky surfaces.	Sheets form, Die-cuts parts

TYPICAL PROPERTIES

PROPERTY	T-top99-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	70	ASTM D2240	Shore OOO
TML	<0.1	By LiPOLY	%
Application temperature	-60~150	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	10	ASTM D5470 modify	%
Deflection @20 psi	22	ASTM D5470 modify	%
Deflection @30 psi	53	ASTM D5470 modify	%
Deflection @40 psi	63	ASTM D5470 modify	%
Deflection @50 psi	65	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	>10^{11}	ASTM D257	Ohm
Volume resistivity	>10^{10}	ASTM D257	Ohm-m
Dielectric constant@10MHz D_k	10.3	ASTM D150	-
Dielectric constant@1GHz D_k	10.2	ASTM D150	-
Dielectric constant@1.8GHz D_k	10.8	ASTM D150	-
Dissipation factor@10MHz D_f	0.002	ASTM D150	-
Dissipation factor@1GHz D_f	0.006	ASTM D150	-
Dissipation factor@1.8GHz D_f	0.023	ASTM D150	-
THERMAL			
Thermal Conductivity	24.0	ASTM D5470	W/m*K
Thermal Conductivity	15.0	ISO 22007-2	W/m*K
Thermal impedance@10psi	0.085	ASTM D5470	°C-in^2/ W
Thermal impedance@20psi	0.077	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi	0.048	ASTM D5470	°C-in^2/ W
Thermal impedance@40psi	0.034	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	0.029	ASTM D5470	°C-in^2/ W

THERMAL IMPEDANCE & COMPRESSION

Compression Force (psi)	Thermal Impedance (°C-in²/W)			Compression (%)		
	1.0 mm	2.0 mm	3.0 mm	1.0 mm	2.0 mm	3.0 mm
10	0.085	0.163	0.221	10	13	16
20	0.077	0.099	0.116	22	49	60
30	0.048	0.050	0.055	53	75	82
40	0.034	0.035	0.039	63	81	86
50	0.029	0.030	0.033	65	82	87

Test method: ASTM D5470

RELIABILITY

Test Property	Compression Force (psi)	70°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.085	0.085	0.086	0.086	0.086
	30	0.048	0.048	0.048	0.049	0.049
	50	0.029	0.029	0.029	0.030	0.030

Test Property	Compression Force (psi)	150°C				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.085	0.085	0.086	0.087	0.087
	30	0.048	0.048	0.049	0.049	0.050
	50	0.029	0.029	0.030	0.030	0.031

Test Property	Compression Force (psi)	60°C / 90%RH				
		Initial	100 hrs	250 hrs	500 hrs	1000 hrs
Thermal Impedance	10	0.085	0.085	0.085	0.086	0.086
	30	0.048	0.048	0.048	0.049	0.049
	50	0.029	0.029	0.029	0.030	0.030

Test Property	Compression Force (psi)	-40°C (30min) ⟷ +125°C (30min)					
		0 Cycles	100 Cycles	200 Cycles	300 Cycles	400 Cycles	500 Cycles
Thermal Impedance	10	0.085	0.085	0.086	0.087	0.087	0.087
	30	0.048	0.048	0.049	0.049	0.050	0.050
	50	0.029	0.030	0.030	0.031	0.031	0.031

Test Property	Compression Force (psi)	Ultra Low Temperature -60°C					
		Initial	100 hrs	200 hrs	300 hrs	400 hrs	500 hrs
Thermal Impedance	10	0.085	0.085	0.085	0.086	0.086	0.086
	30	0.048	0.048	0.048	0.049	0.049	0.049
	50	0.029	0.029	0.029	0.030	0.030	0.030

Test method: ASTM D5470 , Specimen thickness = 1.0mm , Unit: °C-in²/W

PK223

Thermal Conductive Gel Pad

LiPOLY PK223 is a material designed for gap filling. The thermal conductivity is 2.0 W/m*K. The hardness is Shore OO/30 with high flexibility, high compressibility, high insulating, great self-adhesive, which can cover the tolerance of design making it very stable. It also offers customized shape molding service.

FEATURES

/ Thermal conductivity: 2.0 W/m*K
/ Naturally tacky for ease of manufacture
/ Low thermal impedance
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Notebook computers
/ Heat pipe assemblies
/ Memory modules
/ TV hardware
/ Automotive electronics
/ Mobile devices
/ High speed mass storage drives
/ Set-top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

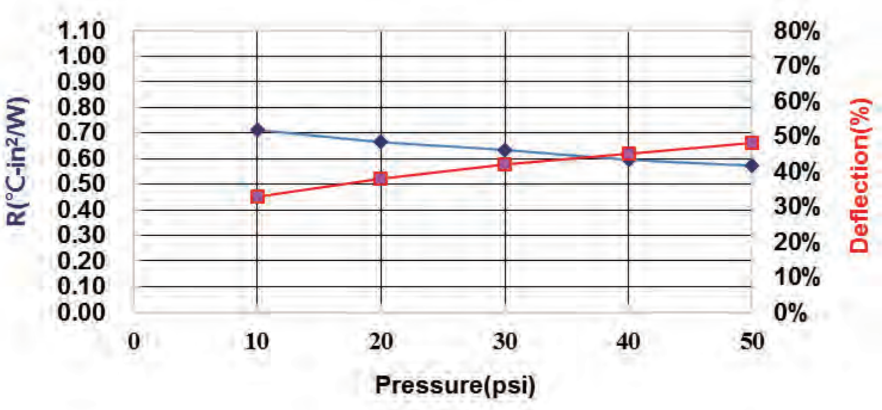
SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	PK223	TEST METHOD	UNIT
Color	White	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.1	ASTM D792	g/cm^3
Hardness	30	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	33	ASTM D5470 modify	%
Deflection @20 psi	38	ASTM D5470 modify	%
Deflection @30 psi	42	ASTM D5470 modify	%
Deflection @40 psi	45	ASTM D5470 modify	%
Deflection @50 psi	48	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	11	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.711	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.664	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.633	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.595	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.572	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



PK404

Thermal Conductive Gel Pad

LiPOLY PK404 is a material designed for gap filling. The thermal conductivity is 4.0 W/m*K. The hardness is Shore OO/30 with high flexibility, high compressibility, high insulating, great self-adhesive, which can cover the tolerance of design making it very stable. It also offers customized shape molding service.

FEATURES

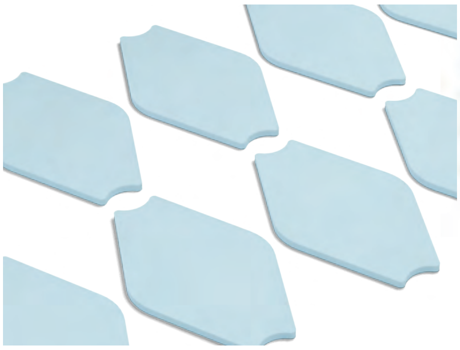
/ Thermal conductivity: 4.0 W/m*K
/ Naturally tacky for ease of manufacture
/ Low thermal impedance
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Notebook computers
/ Heat pipe assemblies
/ Memory modules
/ TV hardware
/ Automotive electronics
/ Mobile devices
/ High speed mass storage drives
/ Set-top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

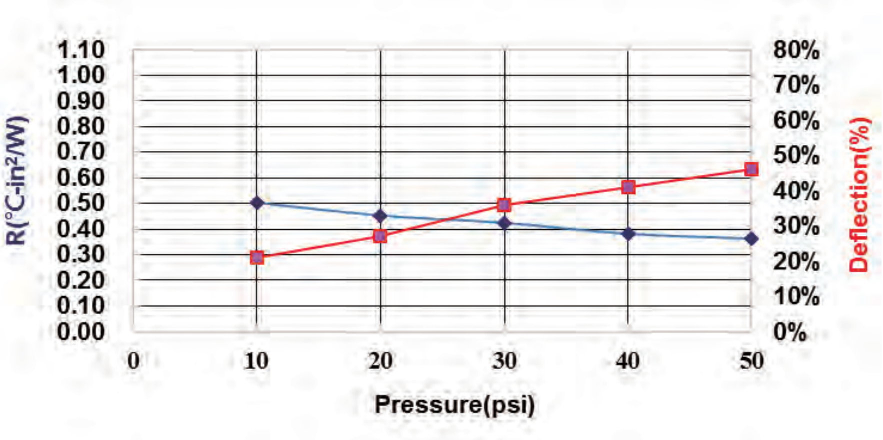
/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	PK404	TEST METHOD	UNIT
Color	Blue	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.8	ASTM D792	g/cm^3
Hardness	30	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	21	ASTM D5470 modify	%
Deflection @20 psi	27	ASTM D5470 modify	%
Deflection @30 psi	36	ASTM D5470 modify	%
Deflection @40 psi	41	ASTM D5470 modify	%
Deflection @50 psi	46	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	4.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.502	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.452	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.423	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.380	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.361	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



PK504

Thermal Conductive Gel Pad

LiPOLY PK504 is a material designed for gap filling. The thermal conductivity is 5.0 W/m*K. The hardness is Shore OO/50 with high flexibility, high compressibility, high insulating, great self-adhesive, which can cover the tolerance of design making it very stable. It also offers customized shape molding service.

FEATURES

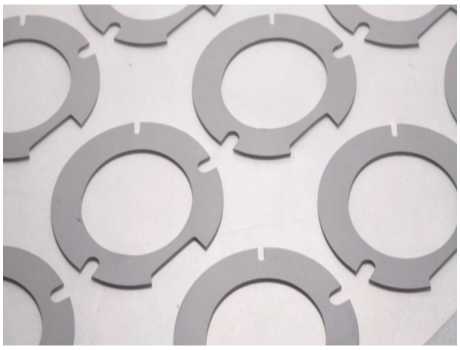
/ Thermal conductivity: 5.0 W/m*K
/ Naturally tacky for ease of manufacture
/ Low thermal impedance
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Notebook computers
/ Heat pipe assemblies
/ Memory modules
/ TV hardware
/ Automotive electronics
/ Mobile devices
/ High speed mass storage drives
/ Set-top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

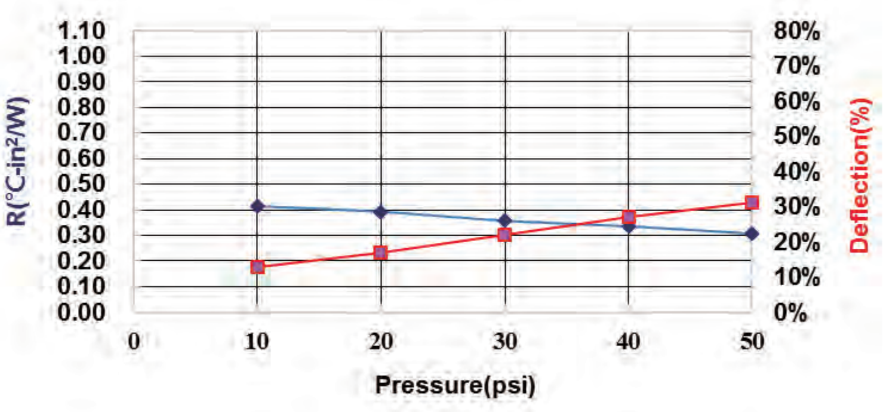
/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	PK504	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.0	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	13	ASTM D5470 modify	%
Deflection @20 psi	17	ASTM D5470 modify	%
Deflection @30 psi	22	ASTM D5470 modify	%
Deflection @40 psi	27	ASTM D5470 modify	%
Deflection @50 psi	31	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.415	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.393	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.358	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.336	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.307	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



PK605

Thermal Conductive Gel Pad

LiPOLY PK605 is a material designed for gap filling. The thermal conductivity is 6.0 W/m*K. The hardness is Shore OO/60 with high flexibility, high compressibility, high insulating, great self-adhesive, which can cover the tolerance of design making it very stable. It also offers customized shape molding service.

FEATURES

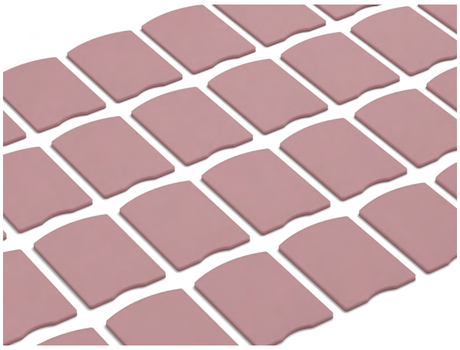
/ Thermal conductivity: 6.0 W/m*K
/ Naturally tacky for ease of manufacture
/ Low thermal impedance
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Notebook computers
/ Heat pipe assemblies
/ Memory modules
/ TV hardware
/ Automotive electronics
/ Mobile devices
/ High speed mass storage drives
/ Set-top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

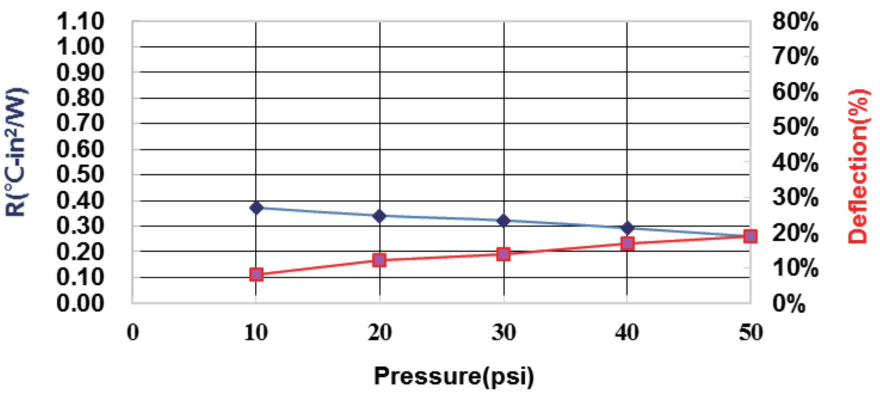
/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	PK605	TEST METHOD	UNIT
Color	Red	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.2	ASTM D792	g/cm^3
Hardness	60	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	8	ASTM D5470 modify	%
Deflection @20 psi	12	ASTM D5470 modify	%
Deflection @30 psi	14	ASTM D5470 modify	%
Deflection @40 psi	17	ASTM D5470 modify	%
Deflection @50 psi	19	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.371	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.341	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.323	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.294	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.262	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



PK700

Thermal Conductive Gel Pad

LiPOLY PK700 is a material designed for gap filling. The thermal conductivity is 7.0 W/m*K. The hardness is Shore OO/55 with high flexibility, high compressibility, high insulating, great self-adhesive, which can cover the tolerance of design making it very stable. It also offers customized shape molding service.

FEATURES

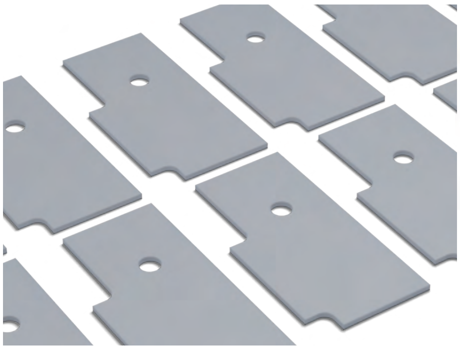
- / Thermal conductivity: 7.0 W/m*K
- / Naturally tacky for ease of manufacture
- / Low thermal impedance
- / Available in a range of thicknesses

TYPICAL APPLICATION

- / Notebook computers
- / Heat pipe assemblies
- / Memory modules
- / TV hardware
- / Automotive electronics
- / Mobile devices
- / High speed mass storage drives
- / Set-top box
- / IP CAM
- / 5G base station & infrastructure
- / EV electric vehicle

SPECIFICATIONS

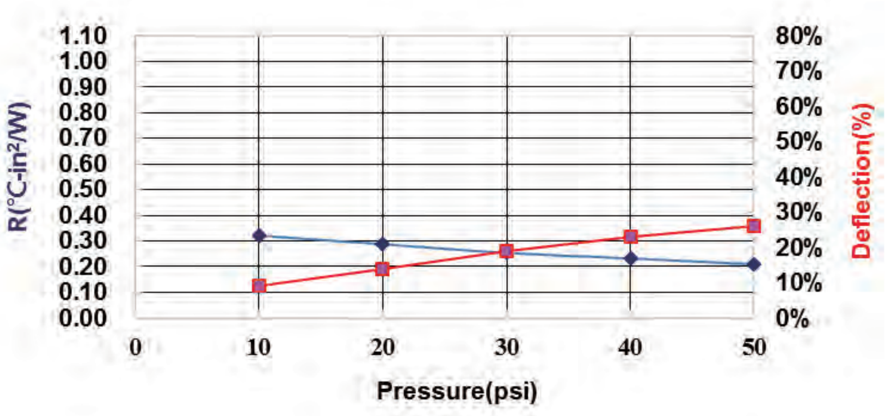
- / Roll form / Sheet form
- / Die-cut parts



TYPICAL PROPERTIES

PROPERTY	PK700	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm³
Hardness	55	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	9	ASTM D5470 modify	%
Deflection @20 psi	14	ASTM D5470 modify	%
Deflection @30 psi	19	ASTM D5470 modify	%
Deflection @40 psi	23	ASTM D5470 modify	%
Deflection @50 psi	26	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	7.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.321	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.288	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.254	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.233	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.210	ASTM D5470	°C-in²/ W

Thermal Impedance vs. Pressure vs. Deflection



S282-s

Thermal Conductive Gap Pad

LiPOLY S282-s is a thermally conductive pad designed for gap filling. The thermal conductivity is 2.5 W/m*K. Using fiberglass reinforced layer and great self-adhesive which can fit closely with non-flat heat sinks to increase the contact area. S282-s is an excellent insulating material with characteristics of low stress damped vibration and shock absorption.

FEATURES

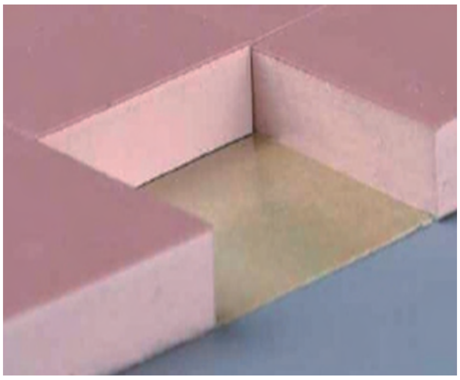
/ Thermal conductivity: 2.5 W/m*K
/ Designed for manufacturing
/ High dielectric breakdown
/ Shock and vibration absorber
/ Good mechanical strength
/ Fiberglass reinforced

TYPICAL APPLICATION

/ Between a component and heat sink
/ Flat-panel displays
/ LED, HDDs, DVDs
/ Heat pipe assemblies
/ Memory modules
/ Power supplies
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

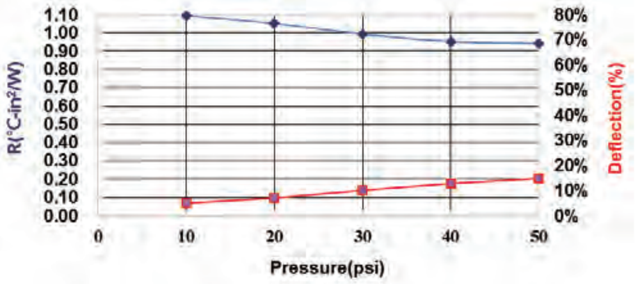
/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	S282-s	TEST METHOD	UNIT
Color	Pink	Visual	-
Surface tack 2-side/1-side	1	-	-
Reinforced layer	Fiberglass	-	-
Thickness	Customized	ASTM D374	mm
Density	2.6	ASTM D792	g/cm³
Hardness	18	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	5	ASTM D5470 modify	%
Deflection @20 psi	7	ASTM D5470 modify	%
Deflection @30 psi	10	ASTM D5470 modify	%
Deflection @40 psi	13	ASTM D5470 modify	%
Deflection @50 psi	15	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.5	ASTM D5470	W/m*K
Thermal impedance@10 psi	1.094	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	1.052	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.993	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.952	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.941	ASTM D5470	°C-in²/ W

Thermal Impedance vs. Pressure vs. Deflection



AS50-s

Thermal Conductive Gap Pad

LiPOLY AS50-s is a thermally conductive pad designed for gap filling. The thermal conductivity is 5.0 W/m*K. Using fiberglass reinforced layer and great self-adhesive which can fit closely with non-flat heat sinks to increase the contact area. AS50-s is an excellent insulating material with characteristics of low stress damped vibration and shock absorption.

FEATURES

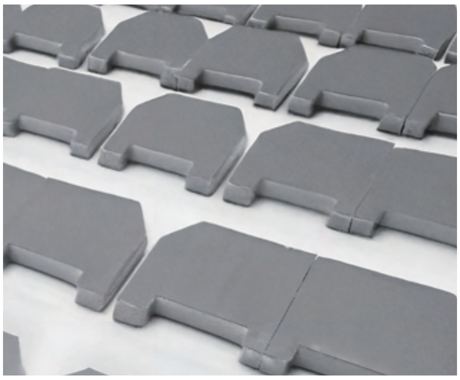
/ Thermal conductivity: 5.0 W/m*K
/ Designed for manufacturing
/ High dielectric breakdown
/ Shock and vibration absorber
/ Good mechanical strength
/ Fiberglass reinforced

TYPICAL APPLICATION

/ Between a component and heat sink
/ Flat-panel displays
/ LED, HDDs, DVDs
/ Heat pipe assemblies
/ Memory modules
/ Power supplies
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

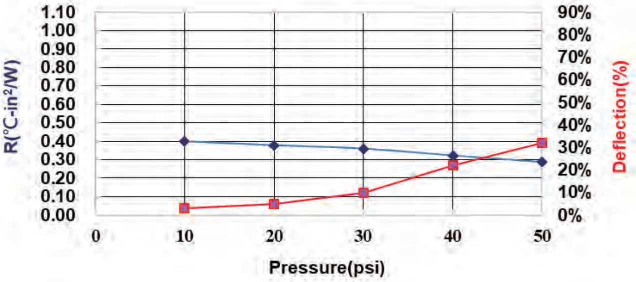
/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	AS50-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	1	-	-
Reinforced layer	Fiberglass	-	-
Thickness	Customized	ASTM D374	mm
Density	3.1	ASTM D792	g/cm³
Hardness	25	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	3	ASTM D5470 modify	%
Deflection @20 psi	5	ASTM D5470 modify	%
Deflection @30 psi	10	ASTM D5470 modify	%
Deflection @40 psi	22	ASTM D5470 modify	%
Deflection @50 psi	32	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	10	ASTM D149	KV/mm
Surface resistivity	>10^{10}	ASTM D257	Ohm
Volume resistivity	>10^{10}	ASTM D257	Ohm-m
THERMAL			
Thermal Conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.398	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.377	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.359	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.322	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.287	ASTM D5470	°C-in²/ W

Thermal Impedance vs. Pressure vs. Deflection



BS75K-s

Exceptionally Soft Thermal Conductive Gel Pad

LiPOLY BS75K-s is an ultra-soft thermally conductive gel pad with a thermal conductivity of 3.0 W/m*K. BS75K-s offers excellent compression under minimal force with high recovery characteristics. This product can be supplied as standard sheets, custom die-cuts or custom molded parts.

FEATURES

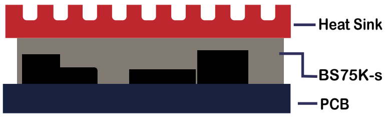
/ Thermal conductivity: 3.0 W/m*K
/ High compression rate
/ Low thermal impedance
/ High recovery
/ Available in a range of thicknesses

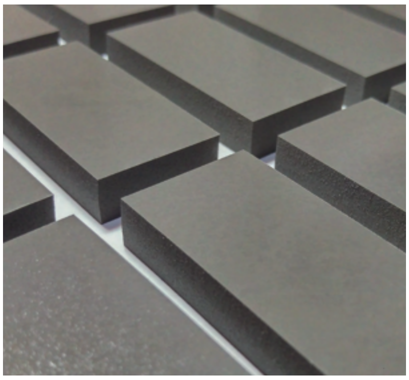
TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Notebook computers
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

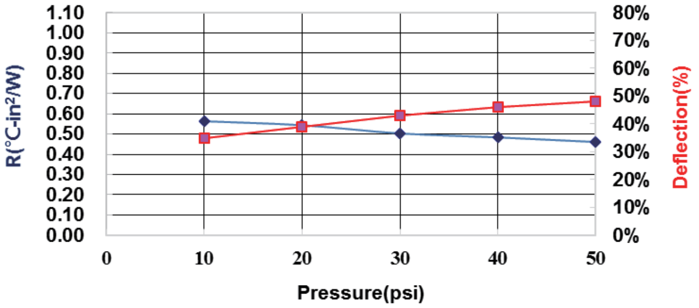




TYPICAL PROPERTIES

PROPERTY	BS75K-s	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.6	ASTM D792	g/cm^3
Hardness	18	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	35	ASTM D5470 modify	%
Deflection @20 psi	39	ASTM D5470 modify	%
Deflection @30 psi	43	ASTM D5470 modify	%
Deflection @40 psi	46	ASTM D5470 modify	%
Deflection @50 psi	48	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.562	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.543	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.504	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.485	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.463	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



BS87-s

Exceptionally Soft Thermal Conductive Gel Pad

LiPOLY BS87-s is an ultra-soft thermally conductive gel pad with a thermal conductivity of 3.0 W/m*K.BS87-s offers excellent compression under minimal force with high recovery characteristics. This product can be supplied as standard sheets, custom die-cuts or custom molded parts.

FEATURES

/ Thermal conductivity: 3.0 W/m*K
/ High compression rate
/ Low thermal impedance
/ High recovery
/ Available in a range of thicknesses

TYPICAL APPLICATION

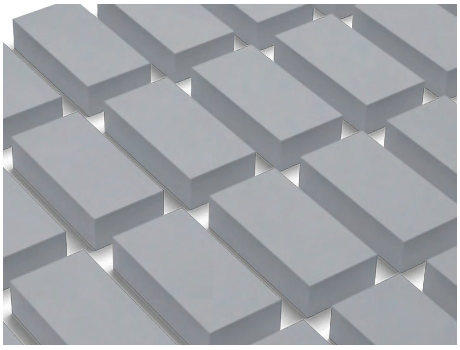
/ Between CPU and heat sink
/ Between a component and heat sink
/ Notebook computers
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

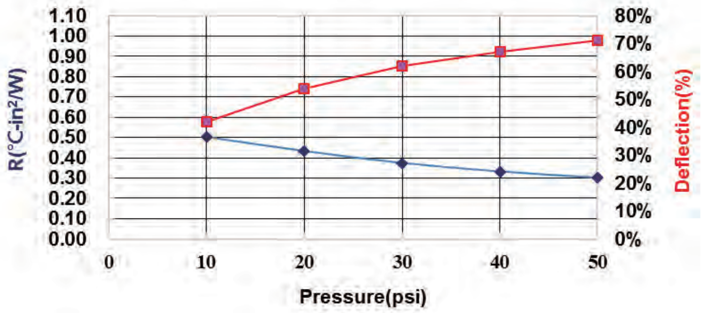
/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	BS87-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.8	ASTM D792	g/cm^3
Hardness	10	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	42	ASTM D5470 modify	%
Deflection @20 psi	54	ASTM D5470 modify	%
Deflection @30 psi	62	ASTM D5470 modify	%
Deflection @40 psi	67	ASTM D5470 modify	%
Deflection @50 psi	71	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.502	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.433	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.374	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.332	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.301	ASTM D5470	°C-in^2/ W



Thermal Impedance vs. Pressure vs. Deflection



BS89-s

Exceptionally Soft Thermal Conductive Gel Pad

LiPOLY BS89-s is an ultra-soft thermally conductive gel pad with a thermal conductivity of 5.0 W/m*K. BS89-s offers excellent compression under minimal force with high recovery characteristics. This product can be supplied as standard sheets, custom die-cuts or custom molded parts.

FEATURES

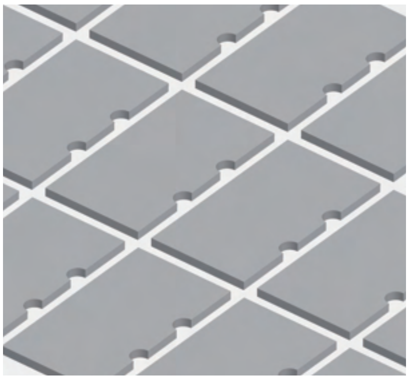
/ Thermal conductivity: 5.0 W/m*K
/ High compression rate
/ Low thermal impedance
/ High recovery
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Notebook computers
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

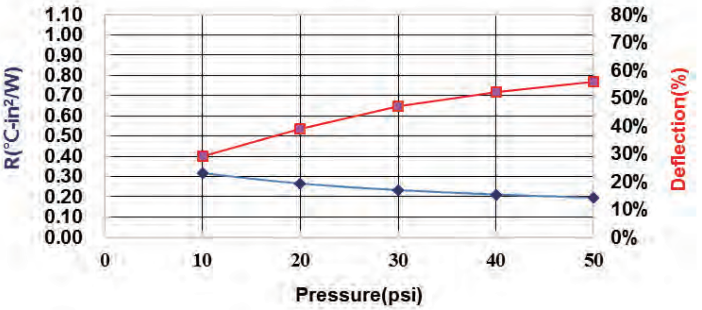
/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	BS89-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.0	ASTM D792	g/cm³
Hardness	25	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	29	ASTM D5470 modify	%
Deflection @20 psi	39	ASTM D5470 modify	%
Deflection @30 psi	47	ASTM D5470 modify	%
Deflection @40 psi	52	ASTM D5470 modify	%
Deflection @50 psi	56	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	>10^{11}	ASTM D257	Ohm
Volume resistivity	>10^{10}	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.318	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.266	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.233	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.211	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.194	ASTM D5470	°C-in²/ W

Thermal Impedance vs. Pressure vs. Deflection



AS200-s

Ultra Low Oil-Bleed Thermal Conductive Gel Pad

LiPOLY AS200-s is a material designed for gap filling. The thermal conductivity is 2.0 W/m*K. The hardness is Shore OO/35, with high flexibility and compressibility. AS200-s has ultra-low oil bleeding properties, which helps reduce pollutants from silicon oil, keeping electronic components clean.

FEATURES

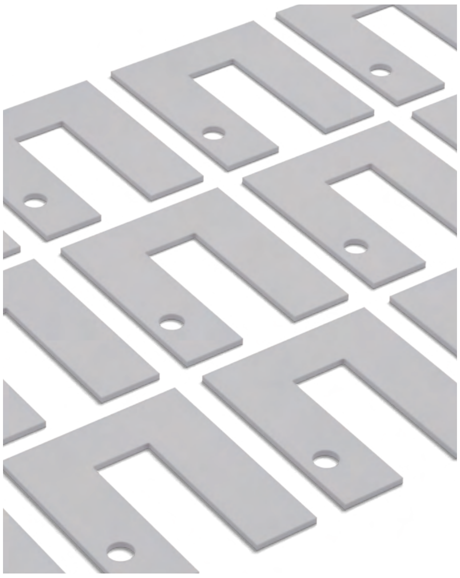
/ Thermal conductivity:2.0 W/m*K
/ High compressibility
/ Low oil-bleeding
/ Naturally tacky and high resilience

TYPICAL APPLICATION

/ Notebook computers
/ Heat pipe assemblies
/ TV hardware
/ Wireless communication hardware
/ High speed mass storage drives
/ Set top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

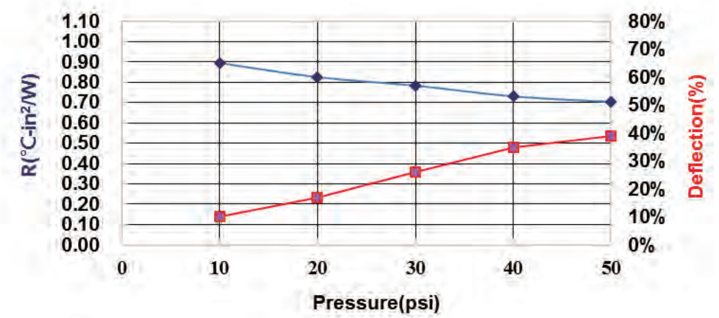
/ Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

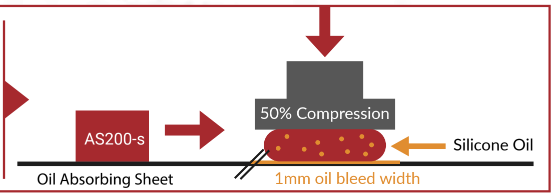
PROPERTY	AS200-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.2	ASTM D792	g/cm^3
Hardness	35	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	10	ASTM D5470 modify	%
Deflection @20 psi	17	ASTM D5470 modify	%
Deflection @30 psi	26	ASTM D5470 modify	%
Deflection @40 psi	35	ASTM D5470 modify	%
Deflection @50 psi	39	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.892	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.824	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.783	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.731	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.704	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



OIL BLEEDING

/ Size 30*30mm^2
/ Thickness 1.0mm
/ Compression 50%
/ Temperature 25℃
/ Time 120h



AS400-s

Ultra Low Oil-Bleed Thermal Conductive Gel Pad

LiPOLY AS400-s is a material designed for gap filling. The thermal conductivity is 4.0 W/m*K. The hardness is Shore OO/45, with high flexibility and compressibility. AS400-s has ultra-low oil bleeding properties, which helps reduce pollutants from silicon oil, keeping electronic components clean.

FEATURES

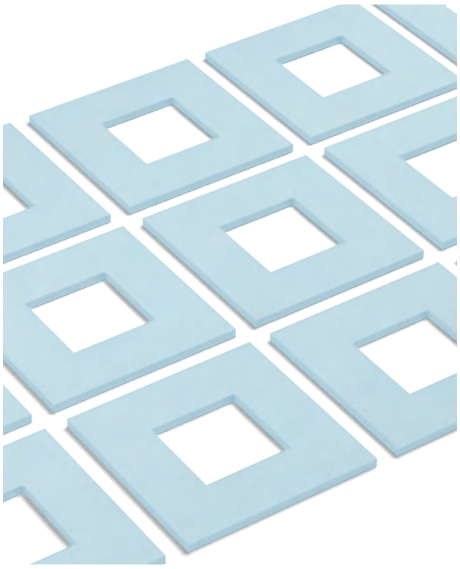
/ Thermal conductivity:4.0 W/m*K
/ High compressibility
/ Low oil-bleeding
/ Naturally tacky and high resilience

TYPICAL APPLICATION

/ Notebook computers
/ Heat pipe assemblies
/ TV hardware
/ Wireless communication hardware
/ High speed mass storage drives
/ Set top box
/ IP CAM
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

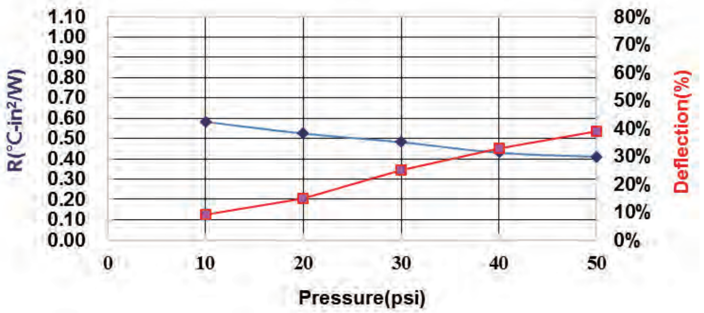
/ Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

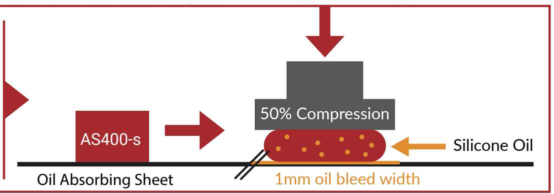
PROPERTY	AS400-s	TEST METHOD	UNIT
Color	Blue	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.6	ASTM D792	g/cm^3
Hardness	45	ASTM D2240	Shore OO
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	9	ASTM D5470 modify	%
Deflection @20 psi	15	ASTM D5470 modify	%
Deflection @30 psi	25	ASTM D5470 modify	%
Deflection @40 psi	33	ASTM D5470 modify	%
Deflection @50 psi	39	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	4.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.582	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.525	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.483	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.431	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.411	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



OIL BLEEDING

/ Size 30*30mm²
/ Thickness 1.0mm
/ Compression 50%
/ Temperature 25℃
/ Time 120h



S393

High Ductile Thermal Conductive Pad

LiPOLY S393 is a product with high ductile thermal conductivity. Having good stretchability and high deformation. The toughness structure can enhance the operability and durability of material. It won't easy to break and deform whether stamped, punched, strip type, or custom cutting. Your best choice for shock and tolerance absorbing.

FEATURES

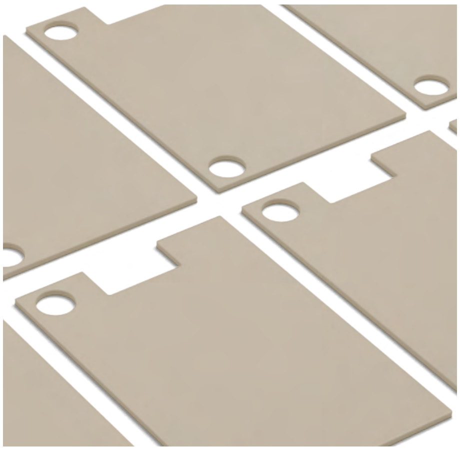
/ Thermal conductivity: 2.2 W/m*K
/ Easy to assemble
/ High reliability
/ Highly ductile and tear resistant
/ Shock and vibrating absorber

TYPICAL APPLICATION

/ Between CPU and heat sink.
/ Between a component and heat sink
/ Flat-panel displays
/ LED
/ HDDs, DVDs
/ Memory modules
/ Power supplies
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

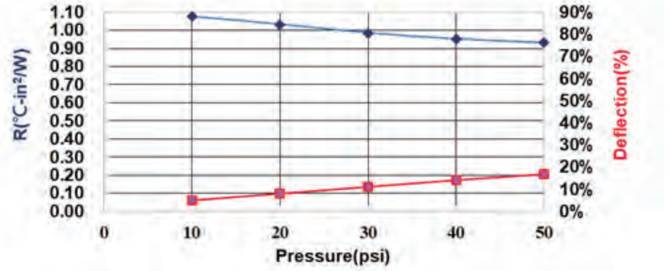
/ Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	S393	TEST METHOD	UNIT
Color	Light green	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.2	ASTM D792	g/cm^3
Hardness	15	ASTM D2240	Shore A
Application temperature	-60~200	-	°C
Short time temp. @10min	-60~270	-	°C
Tensile strength	0.75	ASTM D412	MPa
Elongation	76	ASTM D412	%
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	5	ASTM D5470 modify	%
Deflection @20 psi	8	ASTM D5470 modify	%
Deflection @30 psi	11	ASTM D5470 modify	%
Deflection @40 psi	14	ASTM D5470 modify	%
Deflection @50 psi	17	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	15	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.2	ASTM D5470	W/m*K
Thermal impedance@10 psi	1.075	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	1.033	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.986	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.953	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.932	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



S818

High Ductile Thermal Conductive Pad

LiPOLY S818 is a product with high ductile thermal conductivity. Having good stretchability and high deformation. The toughness structure can enhance the operability and durability of material. It won't easy to break and deform whether stamped, punched, strip type, or custom cutting. Your best choice for shock and tolerance absorbing.

FEATURES

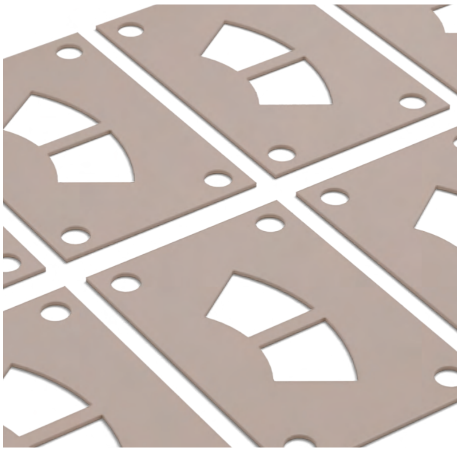
/ Thermal conductivity: 3.2 W/m*K
/ Easy to assemble
/ High reliability
/ Highly ductile and tear resistant
/ Shock and vibrating absorber

TYPICAL APPLICATION

/ Between CPU and heat sink.
/ Between a component and heat sink
/ Flat-panel displays
/ LED
/ HDDs, DVDs
/ Memory modules
/ Power supplies
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

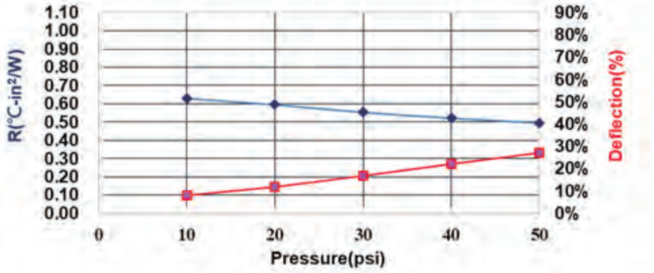
/ Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	S818	TEST METHOD	UNIT
Color	Brown	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.7	ASTM D792	g/cm^3
Hardness	18	ASTM D2240	Shore A
Application temperature	-60~200	-	°C
Short time temp. @10min	-60~270	-	°C
Tensile strength	0.44	ASTM D412	MPa
Elongation	81	ASTM D412	%
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	8	ASTM D5470 modify	%
Deflection @20 psi	12	ASTM D5470 modify	%
Deflection @30 psi	17	ASTM D5470 modify	%
Deflection @40 psi	22	ASTM D5470 modify	%
Deflection @50 psi	27	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.2	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.631	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.596	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.554	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.522	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.495	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



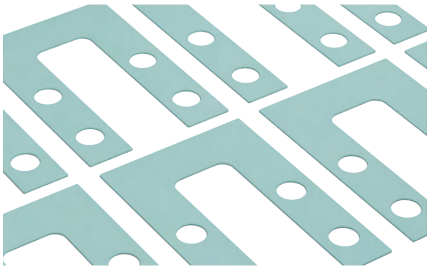
AS02-s

Ultra Thin Thermal Film

LiPOLY AS02-s is a material with double sided inherent tack, low thermal resistance and high thermal conductivity. It has excellent compressive strength characteristics and good electrical isolation function for high-power electronic components, making it the best choice for thin design installation. Customized Die-Cut and molding are available.

FEATURES

/ Great thermal conductivity
/ Low thermal impedance
/ High compressibility
/ Excellent elasticity
/ Suitable for high performance products
/ Die-cut part



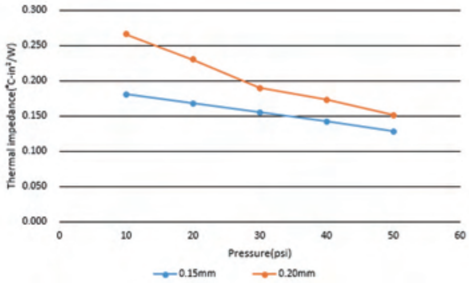
TYPICAL APPLICATION

/ Electronic Components - Notebook computers, Heat pipe assemblies, Memory modules, TV hardware, Automotive electronics, Mobile devices, HPC , servers 5G base station & infrastructure, EV electric vehicle

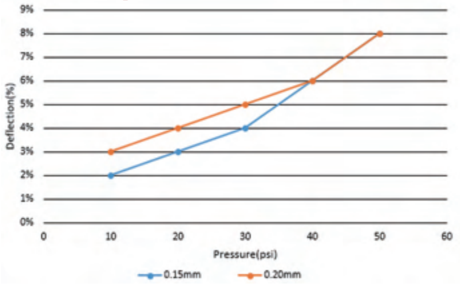
SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

Thermal Impedance vs. Pressure



Compression vs. Pressure



TYPICAL PROPERTIES

PROPERTY	UNIT	AS02-s		TEST METHOD
Thermal conductivity	W/m*K	4.5	4.5	ASTM D5470 Modified
Thickness	mm	0.15	0.20	ASTM D374
	inch	0.0059	0.0079	ASTM D374
Color	-	Green	Green	Visual
Flame rating	-	V-0	V-0	UL94
Dielectric breakdown	KV	4	6	ASTM D149
Weight loss	%	<1	<1	By LiPOLY
Density	g/cm³	3.0	3.0	ASTM D792
Application temperature	°C	-50~180	-50~180	-
Volume resistivity	Ohm -m	$1x10^{12}$	$1x10^{12}$	ASTM D257
Elongation	%	10	10	ASTM D412
Standard Format	-	Sheet	Sheet	-
Hardness	Shore A	25	25	ASTM D2240
ROHS & REACH	-	Compliant	Compliant	-
Surface tack 2-side/1-side	-	2	2	-
Surface resistivity	Ohm	$1x10^{12}$	$1x10^{12}$	ASTM D257
COMPRESSION				
Deflection@10 psi	%	2	3	ASTM D5470
Deflection@20 psi	%	3	4	ASTM D5470
Deflection@30 psi	%	4	5	ASTM D5470
Deflection@40 psi	%	6	6	ASTM D5470
Deflection@50 psi	%	8	8	ASTM D5470
THERMAL				
Thermal impedance@10 psi	°C-in²/ W	0.181	0.266	ASTM D5470
Thermal impedance@20 psi	°C-in²/ W	0.168	0.230	ASTM D5470
Thermal impedance@30 psi	°C-in²/ W	0.155	0.190	ASTM D5470
Thermal impedance@40 psi	°C-in²/ W	0.142	0.173	ASTM D5470
Thermal impedance@50 psi	°C-in²/ W	0.128	0.151	ASTM D5470

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

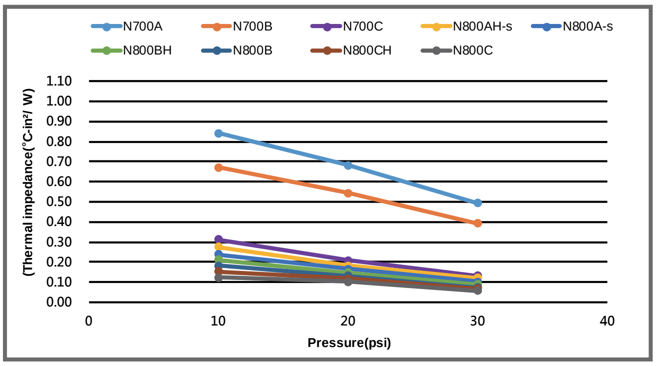
Thermal Conductive Gap Pad Series

Non-Silicone Thermal Pad Technical Information

(1) Thermal Conductivity Test

N series products were tested for thermal performance in accordance with ASTM D5470 specifications. The test results showed that the thermal resistance value is: 0.058~0.494 (℃-in²/W) and proves N series products have ultra-low thermal resistance characteristics.

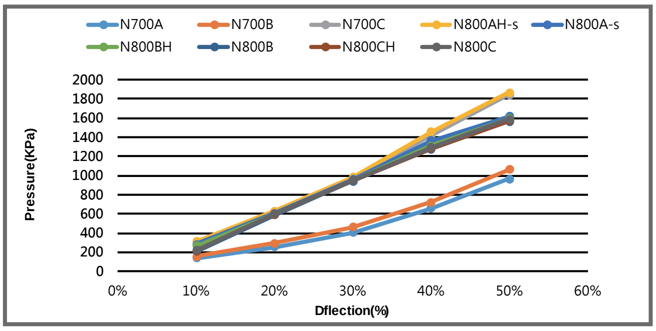
Pressure vs Thermal Resistance Graph



(2) Compressive Stress Test

N series products have low compressive stress characteristics, which can effectively reduce stress load. The equipment bears less mechanical stress and avoids the risk of motherboard deformation and solder joint cracking caused by excessive stress.

Pressure vs Thermal Resistance Graph



(3) Low Molecular Siloxane Test

N series test results show that non-silicon products do not contain silicon, no low-molecular siloxane volatilizes, and there is no risk of electrical failure.

Ret. Time (min)	Compound Name	N700A	N700B	N700C	N800AH-s	N800A-s	N800BH	N800B	N800CH	N800C
		Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)
1.48	D3 - Hexamethyl cyclotrisiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2.15	D4 - Octamethyl cyclotetrasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3.15	D5 - Decamethyl cyclopentasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4.55	D6 - Dodecamethyl cyclohexasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
5.95	D7 - Tetradecamethyl cycloheptasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
6.73	D8 - Hexadecamethyl cyclooctasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
7.30	D9 - Octadecamethyl octacyclononasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
8.50	D10 - Eisosamethyl cyclodecasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
D3 to D10		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

N700A

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N700A is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N700A is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

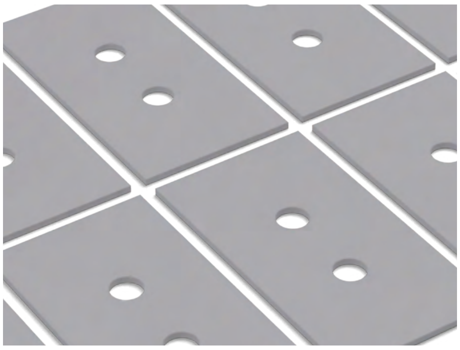
/ Thermal conductivity: 2.5 W/m*K
/ It's made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

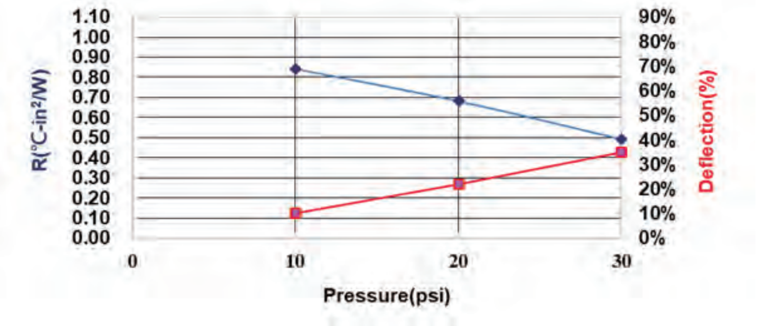


TYPICAL PROPERTIES

PROPERTY	N700A	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.4	ASTM D792	g/cm^3
Hardness	60	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0079	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	10	ASTM D5470 modify	%
Deflection @20 psi	22	ASTM D5470 modify	%
Deflection @30 psi	35	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	16	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.5	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.841	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.682	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.494	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsilox-ane (HO-[Si(CH3)2O]n-H) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight silox-anes will makes the elecetic products uncon-tacted.

Thermal Impedance vs. Pressure vs. Deflection



N700B

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N700B is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N700B is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

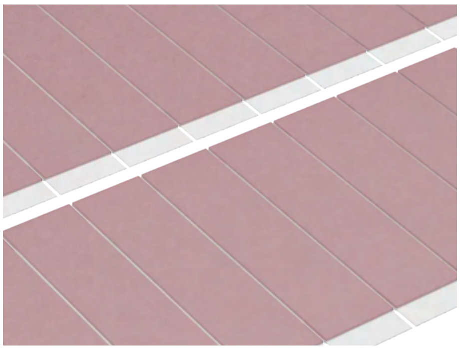
/ Thermal conductivity: 3.0 W/m*K
/ It’s made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

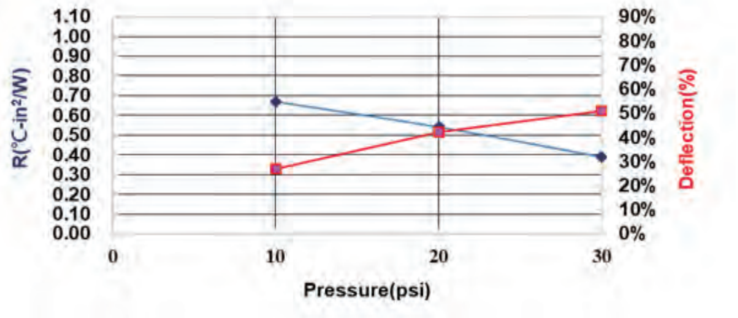


TYPICAL PROPERTIES

PROPERTY	N700B	TEST METHOD	UNIT
Color	Red	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.6	ASTM D792	g/cm³
Hardness	60	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0072	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	27	ASTM D5470 modify	%
Deflection @20 psi	42	ASTM D5470 modify	%
Deflection @30 psi	51	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	16	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.671	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.543	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.392	ASTM D5470	°C-in²/ W

The chemical formula indicates that if Cyclic polydimethylsilox-ane ($HO-[Si(CH_3)_2O]_n-H$) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight silox-anes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



N700C

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N700C is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N700C is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

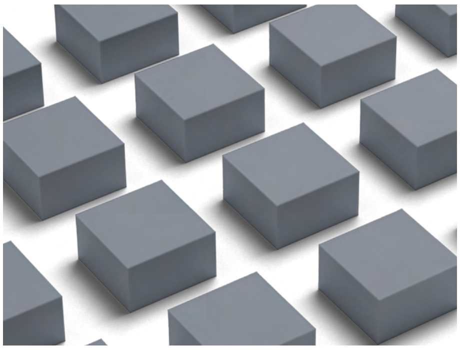
/ Thermal conductivity: 5.0 W/m*K
/ It's made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

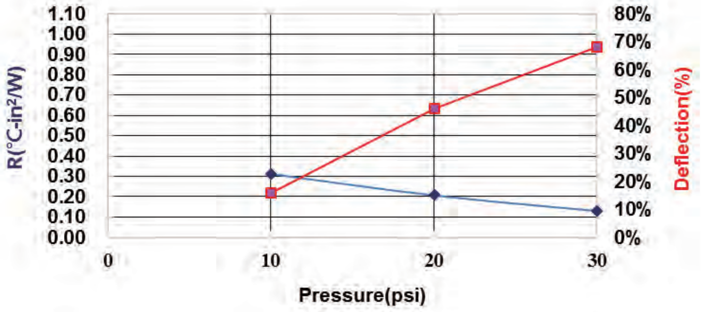


TYPICAL PROPERTIES

PROPERTY	N700C	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.2	ASTM D792	g/cm^3
Hardness	55	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0061	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	16	ASTM D5470 modify	%
Deflection @20 psi	46	ASTM D5470 modify	%
Deflection @30 psi	68	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.312	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.208	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.132	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsilox-ane ($HO-[Si(CH3)2O]n-H$) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight silox-anes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

N800AH-s

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N800AH-s is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems.
N800AH-s is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

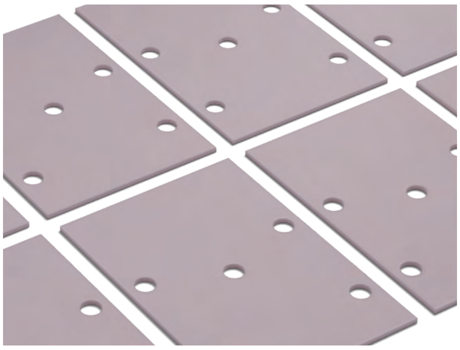
/ Thermal conductivity:7.0 W/m*K
/ It's made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

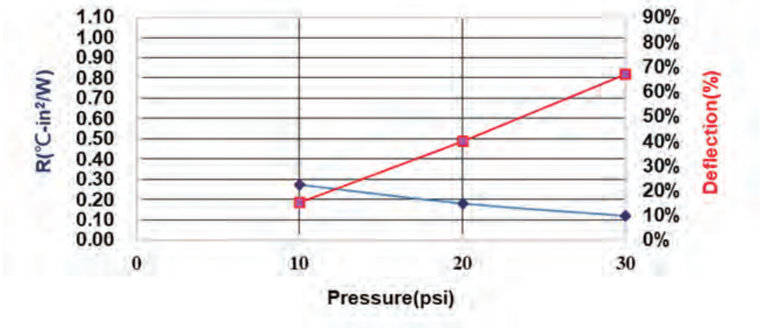


TYPICAL PROPERTIES

PROPERTY	N800AH-s	TEST METHOD	UNIT
Color	Pink	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	60	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0057	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	15	ASTM D5470 modify	%
Deflection @20 psi	40	ASTM D5470 modify	%
Deflection @30 psi	67	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	7.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.274	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.182	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.121	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsiloxane (HO-[Si(CH3)2O]n-H) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight siloxanes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



N800A-s

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N800A-s is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N800A-s is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

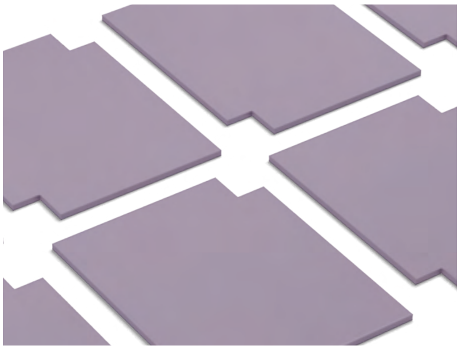
/ Thermal conductivity:9.0 W/m*K
/ It's made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

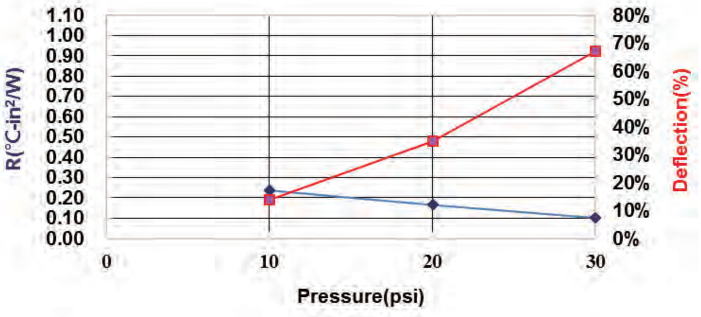


TYPICAL PROPERTIES

PROPERTY	N800A-s	TEST METHOD	UNIT
Color	Pink	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.4	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0049	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	14	ASTM D5470 modify	%
Deflection @20 psi	35	ASTM D5470 modify	%
Deflection @30 psi	67	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	9.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.238	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.166	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.102	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsiloxane (HO-[Si(CH3)2O]n-H) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight siloxanes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



N800BH

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N800BH is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N800BH is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

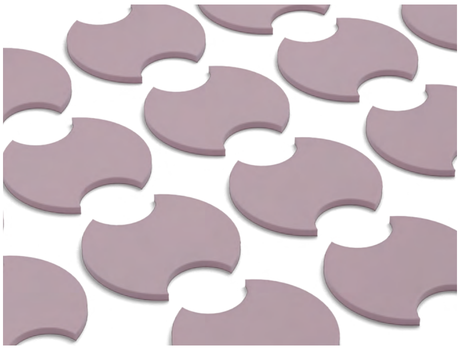
/ Thermal conductivity:11.0 W/m*K
/ It's made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

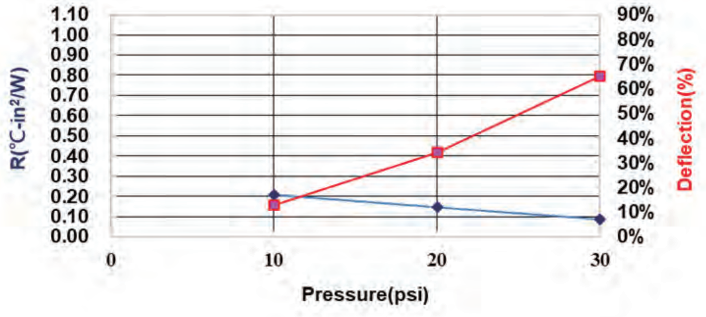


TYPICAL PROPERTIES

PROPERTY	N800BH	TEST METHOD	UNIT
Color	Pink	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm³
Hardness	50	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0047	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	13	ASTM D5470 modify	%
Deflection @20 psi	34	ASTM D5470 modify	%
Deflection @30 psi	65	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	>10^{11}	ASTM D257	Ohm
Volume resistivity	>10^{10}	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	11.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.210	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.148	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.088	ASTM D5470	°C-in²/ W

The chemical formula indicates that if Cyclic polydimethylsiloxane (HO-[Si(CH3)2O]n-H) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight siloxanes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



N800B

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N800B is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N800B is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

/ Thermal conductivity:13.0 W/m*K
/ It’s made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

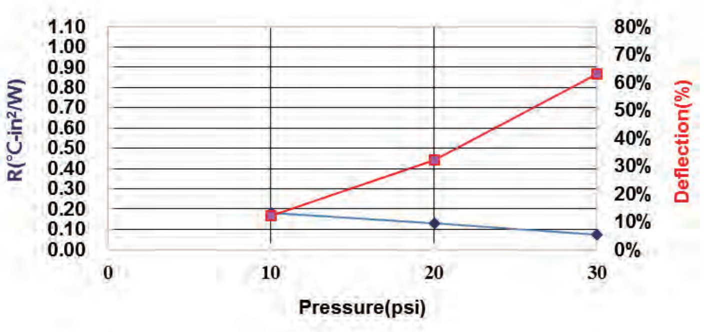
/ Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	N800B	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0045	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	12	ASTM D5470 modify	%
Deflection @20 psi	32	ASTM D5470 modify	%
Deflection @30 psi	63	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	13.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.183	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.131	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.074	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsilox-ane (HO-[Si(CH3)2O]n-H) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight silox-anes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



N800CH

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N800CH is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N800CH is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

/ Thermal conductivity:15.0 W/m*K
/ It’s made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

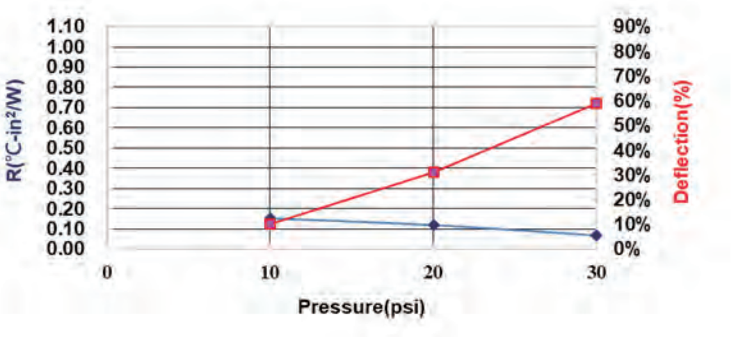
/ Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	N800CH	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0040	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	10	ASTM D5470 modify	%
Deflection @20 psi	31	ASTM D5470 modify	%
Deflection @30 psi	59	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	15.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.153	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.119	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.067	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsilox-ane ($HO-[Si(CH_3)_2O]_n-H$) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight silox-anes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



N800C

Non-Silicone Thermal Conductive Pad

LiPOLY Non-Silicone Thermal Compound N800C is made of non-silicone resin material. No low molecular siloxane volatilization and low total volatile gas, no electrical contact & pollution problems. N800C is flexible and has great thermal conduction, Low compressive stress and high compressive characteristics can effectively reduce the stress load of components, so that the equipment only needs to bear less mechanical stress, and at the same time, it can have low thermal resistance and high thermal conductivity.

FEATURES

/ Thermal conductivity:17.0 W/m*K
/ It's made by non-silicone resin materials
/ Low contact thermal resistance
/ With electrical insulation
/ Outstanding thermal conductivity
/ Applicable to optical and sensitive electric components

TYPICAL APPLICATION

/ HDDS
/ Optical appliance
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

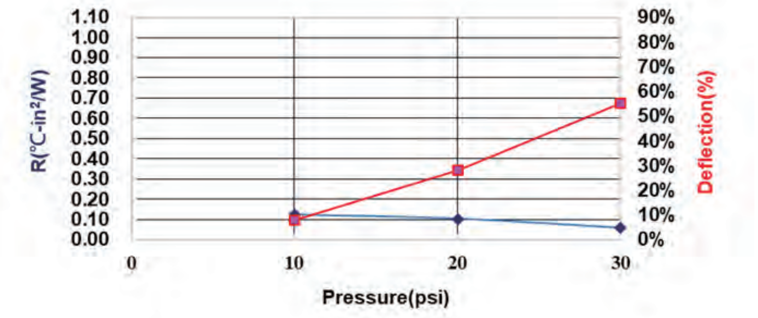
/ Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	N800C	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	3.3	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
Low molecular Siloxane (D3 to D20 total)	N.D	Gas Chromatography	%
Outgassing CVCM (wt%)	0.0043	By LiPOLY	-
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	8	ASTM D5470 modify	%
Deflection @20 psi	28	ASTM D5470 modify	%
Deflection @30 psi	55	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	17.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.122	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.103	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.058	ASTM D5470	°C-in^2/ W

The chemical formula indicates that if Cyclic polydimethylsilox-ane ($HO\text{-}[Si(CH_3)_2O]_n\text{-}H$) is non-reaction, it's volatile anytime and everywhere.
For example, when the electric products which has been put in a confined space, the volatile of low-molecular-weight silox-anes will makes the elecetic products uncontacted.

Thermal Impedance vs. Pressure vs. Deflection



Thermal Liquid Gap Filler Series

Silicone Liquid Gap Filler

Thermal Conductive Putty
S-putty / S-putty2-s / H-putty / H-putty2 / SH-putty3 / S-putty5-s / DTT13-s

Putty series is gap filler material with a thermal conductivity 3.5~13.0 W/m*K, high deformation amount, extremely low thermal resistance, low stress, flexible gap adaptation, and excellent tolerance compensation feature can overcome overflow and dryness problems. Ideally suited for LiPOLY Smart Dispense Robot which is the best choice for automated dispensing production.

Two-Part Thermal Conductive Gap Filler
PK223DM / PK404DM / PK605DM / PK700DM

DM series is two-part compound gap filler that can be cured at room temperature or high temperature. Compared with thermally conductive pad, the Two-Part Thermal conductive Gap filler not only produces low stress, high thermal conductivity, and low viscosity on the components, but also maintains insulation properties. Thermal conductivity: 2.2~7.0 W/m*K. Ideally suited for LiPOLY Smart Dispense Robot which is the best choice for automated dispensing production.

Two-Part Thermal Conductive Sealing Glue
TPS586 / TPS5868 / TPS589

TPS series is a two-part compound sealing glue that can be cured at room temperature or high temperature. The sealing glue is a liquid fluid thermally conductive adhesive that can fill the gaps in the air space around electronic devices. After curing, it will interact with heating electronic components and radiators, so that electronic products can run at high power for heat conduction. It’s a nice gap filler material with thermal conductivity 0.8~3.0 W/m*K.

Two-Part Thermal Conductive Die Attach Adhesive
TIM12 / TIM14

TIM12 / TIM14 is a two-component thermally conductive adhesive that can be cured at high temperature. It not only produces low stress, low thermal resistance, and good adhesion to components, but also maintains excellent insulation properties. Thermal conductivity is 2.0~4.0 W/m*K. TIM 1 material is suitable for automated dispensing operation.

Two-Part Curable Thermal Grease
D2000

D2000 is a two-part compound thermal grease that can be cured at room temperature or high temperature. It’s properties of extremely low thermal resistance and high reliability cause no dryness and overflow.

Thermal Liquid Gap Filler Series

Silicone Liquid Gap Filler

Thermal Grease
TT3000 / G3380A / G3380B / G3380K / G3380T

G and TT series is thermal grease with extremely low thermal resistance and good thermal conductivity features. They have been widely used in thermal control technology for consumer electronics and microprocessors. When the temperature of the components rises the viscosity of the grease will decrease for wetting interface element. Thermal conductivity: 1.3~6.0 W/m*K, it’s a nice gap filler material.

Thermal Liquid Gap Filler Series

Non-Silicone Liquid Gap Filler

Non-Silicone Thermal Conductive Putty
N-putty / N-putty2 / N-putty3 / N-putty5

N-putty series is a non-silicone thermal conductive gel with thermal conductivity: 3.5~9.0 W/m*K. None low-molecular-weight siloxane volatilization causes no electrical contact failure. It suitable use for optical products or sensitive electronic components. It has extremely low thermal resistance, low stress, flexible adaptation of the gap and tolerance compensation characteristics which can overcome overflow and dryness issue. Ideally suited for LiPOLY Smart Dispense Robot which is the best choice for automated dispensing production.

What is Low-molecular-weight siloxane?

The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane $Ho\text{-}[Si(CH_3)_2O]n\text{-}H$ is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.

Non-Silicone Two-Part Thermal Conductive Adhesive
NEP220 / NEP230

NEP220, NEP230 series is silicone free two-part compound fixing glue, which have good fixing ability after curing at room temperature or high temperature. Compared with thermally conductive pad, non-silicon two-part thermal conductive adhesive not only produces low stress, high thermal conductivity, Low viscosity, while also maintains excellent insulation. None low-molecular- weight siloxane volatilization cause no electrical contact failure. It is suitable for optical products or sensitive electronic components. Ideally suited for LiPOLY Smart Dispense Robot which is the best choice for automated dispensing production.

What is Low-molecular-weight siloxane?

The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane $Ho\text{-}[Si(CH_3)_2O]n\text{-}H$ is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.

Non-Silicone Two-Part Thermal Conductive Sealing Glue
EP770

EP series is a non-silicone two-component thermally conductive potting adhesive that can be cured at room temperature or high temperature. The potting adhesive is a liquid flowable thermally conductive adhesive that can fill the gaps in the air space around electronic devices. After curing, it maintains close contact with the heat-generating electronic components and radiators, allowing electronic products to operate at high power for heat conduction. There is no volatilization of low-molecular siloxane, which will not cause electrical contact failures. It is suitable for use in optical products or sensitive electronic components.

What is Low-molecular-weight siloxane?

The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane $Ho\text{-}[Si(CH_3)_2O]n\text{-}H$ is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.

Thermal Liquid Gap Filler Series

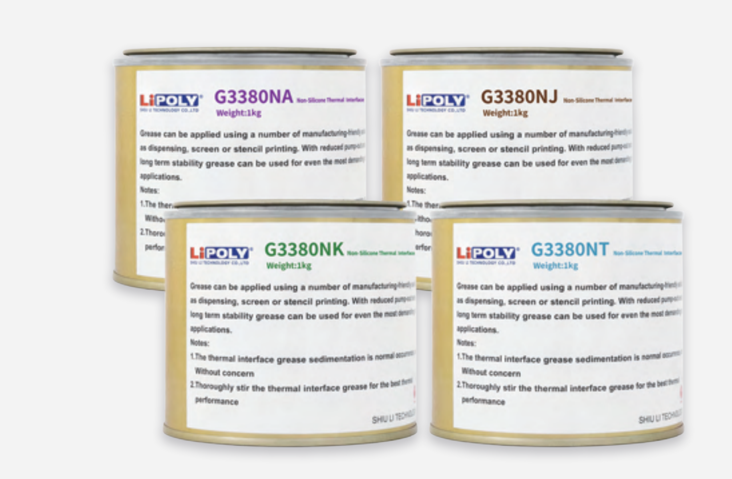
Non-Silicone Liquid Gap Filler

Non-Silicone Thermal Grease
G3380NA / G3380NJ / G3380NK / G3380NT

G3380N series is a non-silicone thermal grease with a thermal conductivity of 1.3~6.0 W/m*K. None low-molecular- weight siloxane volatilization cause no electrical contact failure. It is suitable for optical products or sensitive electronic components. Extremely low thermal resistance and good thermal conductivity have been widely used in thermal control technology for consumer electronics and micro-processors. When the temperature of the component rises, the viscosity of the grease will decrease for wetting the interface components.

What is Low-molecular-weight siloxane?

The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane Ho-[Si(CH$_3$)$_2$O]n-H is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.



S-putty

Thermal Conductive Putty

LiPOLY S-putty is a one-part dispensable material with thermal conductivity 3.5 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:3.5 W/m*K
/ Bond line thickness:100-1500μm
/ 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

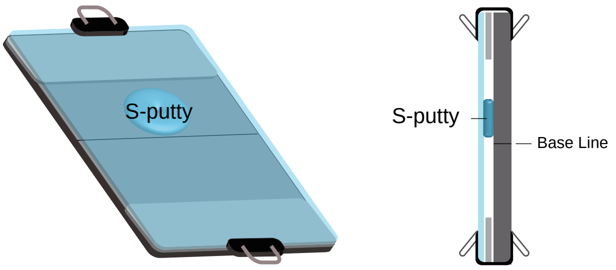
It can be preserved for 60 months under the condition of unopened and under room temperature 30°C.

TYPICAL PROPERTIES

PROPERTY	S-putty	TEST METHOD	UNIT
Color	Blue	Visual	-
Resin base	Silicone	-	-
Viscosity	2000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	31	By LiPOLY	g/min
Density	3.0	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.5	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.079	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 60°C	0.071	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 60°C	0.061	ASTM D5470	°C-in^2/ W

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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

S-putty2-s

Thermal Conductive Putty

LiPOLY S-putty2-s is a one-part dispensable material with thermal conductivity 6.0 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:6.0 W/m*K
/ Bond line thickness:100~1500μm
/ 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

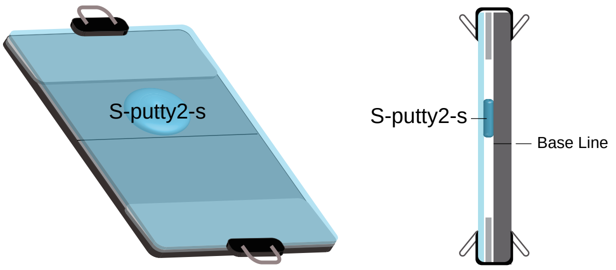
It can be preserved for 60 months under the condition of unopened and under room temperature 30°C.

TYPICAL PROPERTIES

PROPERTY	S-putty2-s	TEST METHOD	UNIT
Color	Blue	Visual	-
Resin base	Silicone	-	-
Viscosity	3500	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	21	By LiPOLY	g/min
Density	3.3	ASTM D792	g/cm³
Application temperature	-60~180	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.062	ASTM D5470	°C-in²/ W
Thermal impedance@30psi / 60°C	0.059	ASTM D5470	°C-in²/ W
Thermal impedance@50psi / 60°C	0.053	ASTM D5470	°C-in²/ W

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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

H-putty

Thermal Conductive Putty

LiPOLY H-putty is a one-part dispensable material with thermal conductivity 3.5 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:3.5 W/m*K
/ Bond line thickness:100~3000μm
/ 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

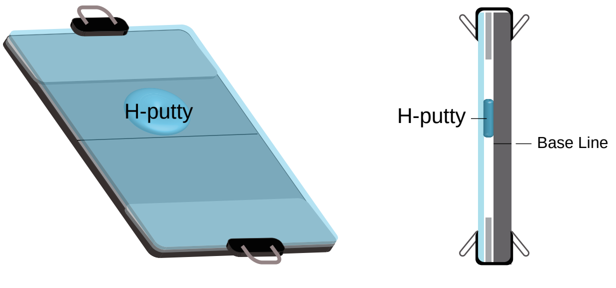
It can be preserved for 60 months under the condition of unopened and under room temperature 30°C.

TYPICAL PROPERTIES

PROPERTY	H-putty	TEST METHOD	UNIT
Color	Blue	Visual	-
Resin base	Silicone	-	-
Viscosity	15000	DIN 53018	Pa.s
Density	3.0	ASTM D792	g/cm³
Application temperature	-60~180	-	°C
Bond line thickness	100~3000	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.5	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.076	ASTM D5470	°C-in²/ W
Thermal impedance@30psi / 60°C	0.072	ASTM D5470	°C-in²/ W
Thermal impedance@50psi / 60°C	0.069	ASTM D5470	°C-in²/ W

VERTICAL RELIABILITY

Using 3.0mm 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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

H-putty2

Thermal Conductive Putty

LiPOLY H-putty2 is a one-part dispensable material with thermal conductivity 6.0 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:6.0 W/m*K
/ Bond line thickness:100~3000μm
/ 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

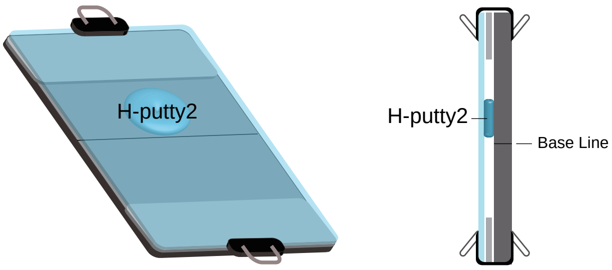
It can be preserved for 60 months under the condition of unopened and under room temperature 30°C.

TYPICAL PROPERTIES

PROPERTY	H-putty2	TEST METHOD	UNIT
Color	Blue	Visual	-
Resin base	Silicone	-	-
Viscosity	15000	DIN 53018	Pa.s
Density	3.3	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Bond line thickness	100~3000	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	>10^{13}	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.061	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 60°C	0.054	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 60°C	0.050	ASTM D5470	°C-in^2/ W

VERTICAL RELIABILITY

Using 3.0mm 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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

SH-putty3

Thermal Conductive Putty

LiPOLY SH-putty3 is a one-part dispensable material with thermal conductivity 8.0 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:8.0 W/m*K
/ Bond line thickness:100~3000μm
/ 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

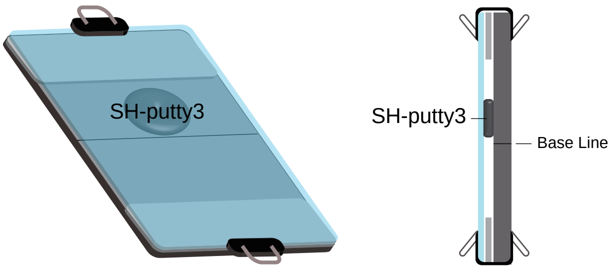
It can be preserved for 60 months under the condition of unopened and under room temperature 30°C.

TYPICAL PROPERTIES

PROPERTY	SH-putty3	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Silicone	-	-
Viscosity	17000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	32	By LiPOLY	g/min
Density	3.4	ASTM D792	g/cm³
Application temperature	-60~180	-	°C
Bond line thickness	100~3000	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	>10^{13}	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	8.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.039	ASTM D5470	°C-in²/ W
Thermal impedance@30psi / 60°C	0.035	ASTM D5470	°C-in²/ W
Thermal impedance@50psi / 60°C	0.031	ASTM D5470	°C-in²/ W

VERTICAL RELIABILITY

Using 3.0mm 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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

S-putty5-s

Thermal Conductive Putty

LiPOLY S-putty5-s is a one-part dispensable material with thermal conductivity 10.0 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

- / Thermal conductivity:10.0 W/m*K
- / Bond line thickness:200~3000μm
- / 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

CONFIGURATIONS

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

TYPICAL PROPERTIES

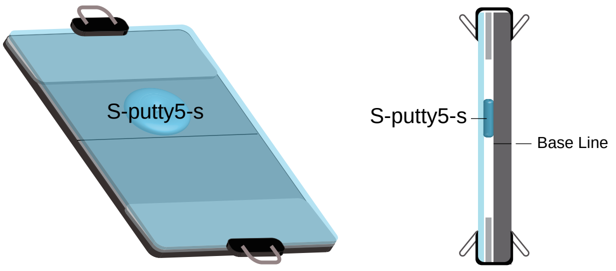
PROPERTY	S-putty5-s	TEST METHOD	UNIT
Color	Blue	Visual	-
Resin base	Silicone	-	-
Viscosity	20000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	23	By LiPOLY	g/min
Density	3.3	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Bond line thickness	200~3000	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	10.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.035	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 60°C	0.031	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 60°C	0.027	ASTM D5470	°C-in^2/ W

PRESERVATION

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

VERTICAL RELIABILITY

Using 3.0mm 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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

DTT13-s

Thermal Conductive Putty

LiPOLY DTT13-s is a one-part dispensable material with thermal conductivity 13.0 W/m*K. High deformation can fill small air gaps perfectly to remove tolerance. It also can overcome overflow and drying problems to increase the thermal conductivity. DTT13-s is a great alternative to thermal grease and ideally suited for dispensing using the dispensing robot.

FEATURES

/ Thermal conductivity:13.0 W/m*K
/ Bond line thickness:200~3000μm
/ Designed to remove manufacturing tolerances
/ Does not produce stress on delicate components
/ No vertical flow
/ Dispensable for serial manufacture
/ For any high compression andlow 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

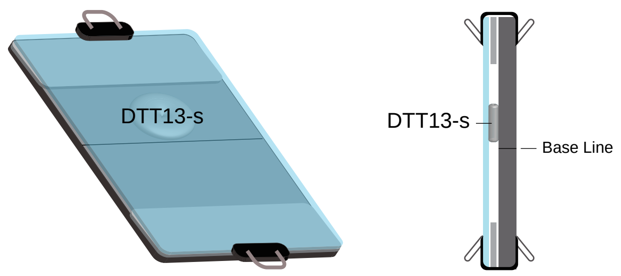
It can be preserved for 60 months under the condition of unopened and under room temperature 30°C.

TYPICAL PROPERTIES

PROPERTY	DTT13-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Silicone	-	-
Viscosity	20000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	17	By LiPOLY	g/min
Density	3.3	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Bond line thickness	200~3000	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	13.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.031	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 60°C	0.027	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 60°C	0.024	ASTM D5470	°C-in^2/ W

VERTICAL RELIABILITY

Using 3.0mm 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°C for 1,000 hours and observe its displacement after reliability test



Material no dropped or changed after high temperature aging testing

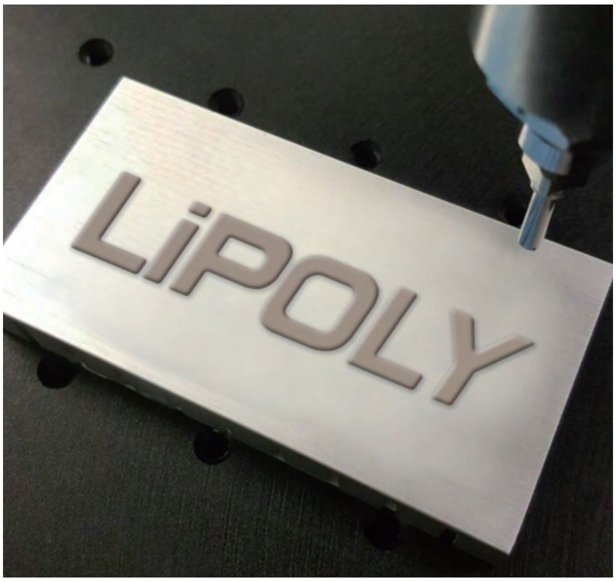
PK223DM

Two-Part Thermal Conductive Gap Filler

LiPOLY PK223DM is a two-part liquid gap filler, fast cured at room temperature or elevated temperature. With a thermal conductivity of 2.2 W/m*K, PK223DM 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
/ Fast curing in normal atmospheric temperature
/ Great reliability
/ Great sealing in low pressure



TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ Electric vehicle& Automotive battery
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

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

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 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.)

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

/ The two-part items, due to the different liquid levels of the agents the mixture cannot reach a 1:1 ratio it might cause curing not entirely. We recommend to squeeze out 1.5g treat as waste.

/ It's recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	PK223DM	TEST METHOD	UNIT
Color	White (A part) Gray (B part)	Visual	-
Solid content	100% (Two-part : 100:100)	-	-
Viscosity A	120	ISO 3219	Pa.s
Viscosity B	110	ISO 3219	Pa.s
Density	2.2	ASTM D792	g/cm^3
Shelf life	24 months	-	-
ROHS & REACH	Compliant	-	-
SOLID(AFTER CURE)			
Thermal conductivity	2.2	ASTM D5470	W/m*K
Thermal impedance@10mils BLT	0.294	ASTM D5470	°C-in^2/ W
Thermal impedance@20mils BLT	0.571	ASTM D5470	°C-in^2/ W
Thermal impedance@30mils BLT	0.710	ASTM D5470	°C-in^2/ W
Hardness	50	ASTM D2240	Shore OO
Working temp (long term)	-60 ~ 200	-	°C
Operating ambient temp	20 ~ 30	-	°C
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
CURE SCHEDULE			
Pot life @ 25°C	10~15	By LiPOLY	min
Surface dry @ 25°C	20~25	By LiPOLY	min
Cure @ 25°C	30~35	By LiPOLY	min
Cure @ 100°C	72	By LiPOLY	sec
Cure @ 120°C	20	By LiPOLY	sec

PK404DM

Two-Part Thermal Conductive Gap Filler

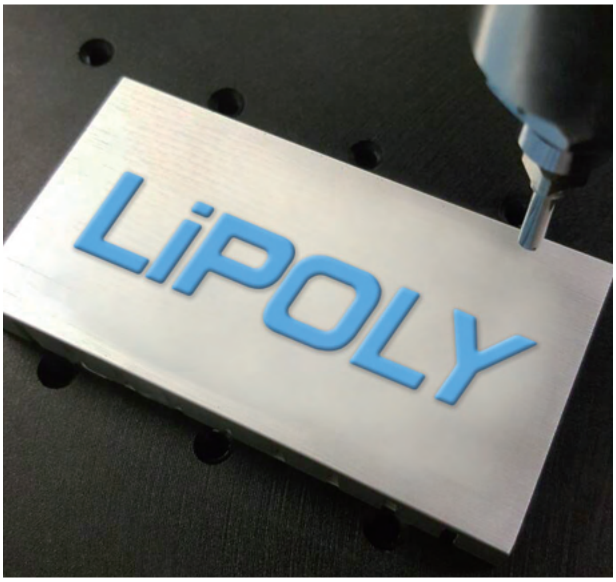
LiPOLY PK404DM is a two-part liquid gap filler, fast cured at room temperature or elevated temperature. With a thermal conductivity of 3.6 W/m*K, PK404DM provides high thermal conductivity and low thermal impedance. It is ideally suited for dispensing using the dispensing robot or by syringe.

FEATURES

/ Thermal conductivity: 3.6 W/m*K
/ Fast curing in normal atmospheric temperature
/ Great reliability
/ Great sealing in low pressure

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ Electric vehicle& Automotive battery
/ 5G base station & infrastructure
/ EV electric vehicle



CONFIGURATIONS

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

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 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.)

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

/ The two-part items, due to the different liquid levels of the agents the mixture cannot reach a 1:1 ratio it might cause curing not entirely. We recommend to squeeze out 1.5g treat as waste.

/ It's recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	PK404DM	TEST METHOD	UNIT
Color	Blue (A part) White (B part)	Visual	-
Solid content	100% (Two-part : 100:100)	-	-
Viscosity A	47	ISO 3219	Pa.s
Viscosity B	48	ISO 3219	Pa.s
Density	3.0	ASTM D792	g/cm^3
Shelf life	24 months	-	-
ROHS & REACH	Compliant	-	-
SOLID(AFTER CURE)			
Thermal conductivity	3.6	ASTM D5470	W/m*K
Thermal impedance@10mils BLT	0.252	ASTM D5470	°C-in^2/ W
Thermal impedance@20mils BLT	0.471	ASTM D5470	°C-in^2/ W
Thermal impedance@30mils BLT	0.568	ASTM D5470	°C-in^2/ W
Hardness	80	ASTM D2240	Shore OO
Working temp (long term)	-60 ~ 200	-	°C
Operating ambient temp	20 ~ 30	-	°C
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	>10^{10}	ASTM D257	Ohm
Volume resistivity	>10^{10}	ASTM D257	Ohm-m
CURE SCHEDULE			
Pot life @ 25°C	10~15	By LiPOLY	min
Surface dry @ 25°C	20~25	By LiPOLY	min
Cure @ 25°C	25~30	By LiPOLY	min
Cure @ 100°C	60	By LiPOLY	sec
Cure @ 120°C	20	By LiPOLY	sec

PK605DM

Two-Part Thermal Conductive Gap Filler

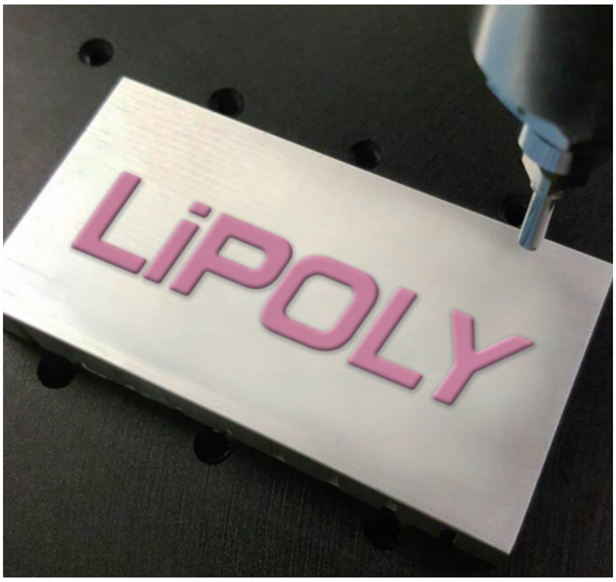
LiPOLY PK605DM is a two-part liquid gap filler, fast cured at room temperature or elevated temperature. With a thermal conductivity of 5.0 W/m*K, PK605DM provides high thermal conductivity and low thermal impedance. It is ideally suited for dispensing using the dispensing robot or by syringe.

FEATURES

/ Thermal conductivity: 5.0 W/m*K
/ Fast curing in normal atmospheric temperature
/ Great reliability
/ Great sealing in low pressure

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ Electric vehicle& Automotive battery
/ 5G base station & infrastructure
/ EV electric vehicle



CONFIGURATIONS

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

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 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.)

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

/ The two-part items, due to the different liquid levels of the agents the mixture cannot reach a 1:1 ratio it might cause curing not entirely. We recommend to squeeze out 1.5g treat as waste.

/ It's recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	PK605DM	TEST METHOD	UNIT
Color	Red (A part) White (B part)	Visual	-
Solid content	100% (Two-part : 100:100)	-	-
Viscosity A	110	ISO 3219	Pa.s
Viscosity B	80	ISO 3219	Pa.s
Density	3.3	ASTM D792	g/cm^3
Shelf life	24 months	-	-
ROHS & REACH	Compliant	-	-
SOLID(AFTER CURE)			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10mils BLT	0.092	ASTM D5470	°C-in^2/ W
Thermal impedance@20mils BLT	0.171	ASTM D5470	°C-in^2/ W
Thermal impedance@30mils BLT	0.254	ASTM D5470	°C-in^2/ W
Hardness	85	ASTM D2240	Shore OO
Working temp (long term)	-60 ~ 200	-	°C
Operating ambient temp	20 ~ 30	-	°C
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
CURE SCHEDULE			
Pot life @ 25°C	10~15	By LiPOLY	min
Surface dry @ 25°C	20~25	By LiPOLY	min
Cure @ 25°C	25~30	By LiPOLY	min
Cure @ 100°C	40	By LiPOLY	sec
Cure @ 120°C	10	By LiPOLY	sec

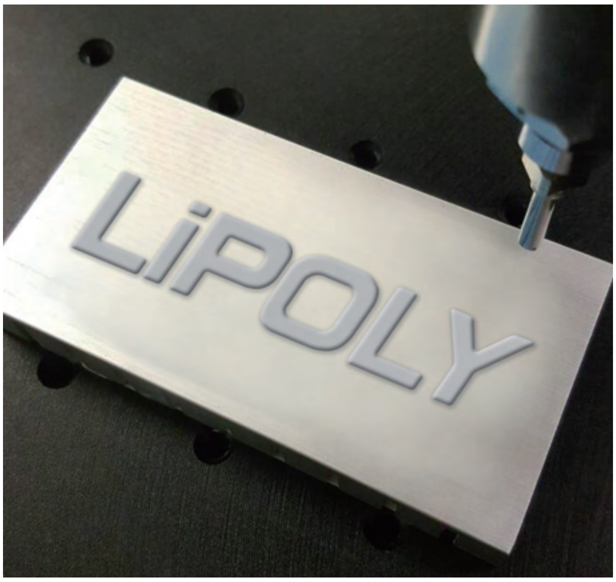
PK700DM

Two-Part Thermal Conductive Gap Filler

LiPOLY PK700DM is a two-part liquid gap filler, fast cured at room temperature or elevated temperature. With a thermal conductivity of 7.0 W/m*K, PK700DM provides high thermal conductivity and low thermal impedance. It is ideally suited for dispensing using the dispensing robot or by syringe.

FEATURES

/ Thermal conductivity: 7.0 W/m*K
/ Fast curing in normal atmospheric temperature
/ Great reliability
/ Great sealing in low pressure



TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ Electric vehicle& Automotive battery
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

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

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 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.)

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

/ The two-part items, due to the different liquid levels of the agents the mixture cannot reach a 1:1 ratio it might cause curing not entirely. We recommend to squeeze out 1.5g treat as waste.

/ It's recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	PK700DM	TEST METHOD	UNIT
Color	Gray (A part) White (B part)	Visual	-
Solid content	100% (Two-part : 100:100)	-	-
Viscosity A	315	ISO 3219	Pa.s
Viscosity B	285	ISO 3219	Pa.s
Density	2.8	ASTM D792	g/cm^3
Shelf life	24 months	-	-
ROHS & REACH	Compliant	-	-
SOLID(AFTER CURE)			
Thermal conductivity	7.0	ASTM D5470	W/m*K
Thermal impedance@10mils BLT	0.058	ASTM D5470	°C-in^2/ W
Thermal impedance@20mils BLT	0.115	ASTM D5470	°C-in^2/ W
Thermal impedance@30mils BLT	0.170	ASTM D5470	°C-in^2/ W
Hardness	60	ASTM D2240	Shore OO
Working temp (long term)	-60 ~ 200	-	°C
Operating ambient temp	20 ~ 30	-	°C
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
CURE SCHEDULE			
Pot life @ 25°C	20~30	By LiPOLY	min
Surface dry @ 25°C	30~40	By LiPOLY	min
Cure @ 25°C	40~50	By LiPOLY	min
Cure @ 100°C	40	By LiPOLY	sec
Cure @ 120°C	10	By LiPOLY	sec

TPS586/TPS5868

Two-Part Thermal Conductive Sealing Glue

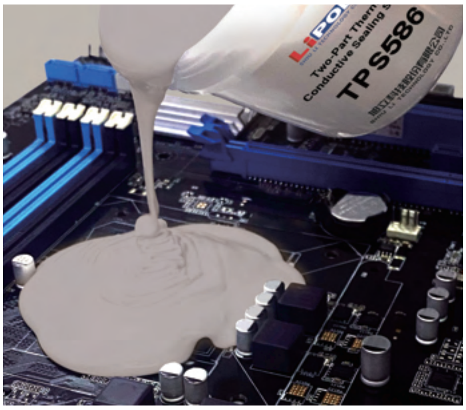
LiPOLY TPS586/5868 is a two-part sealing gap filler, provides low viscosity and high fluidity. The high deformation material, which can filling the gap closely, cover the tolerance, and has outstanding conductivity, makes is suitable for filling the peculiar gap.

FEATURES

/ Thermal conductivity: 1.5/3.0 W/m*K
/ Two-parts package and easy to use
/ Waterproof and air-tight
/ Thermally conductive vibration dampening

TYPICAL APPLICATION

/ Automotive electronics / Telecommunications
/ Computer and peripherals / 5G base station & infrastructure
/ Between any heat-generating component and a heat sink
/ EV electric vehicle



PRESERVATION

/ It can be preserved for 24 months under the condition of unopened and under room temperature 30°C

PRECAUTIONS

/ TPS586/TPS5868 If the interface has organic compounds such as Nitrogen, Phosphorous, Sulfur etc., and heavy metals ionic compound such as Tin, Lead, Mercury, Antimony, Bismuth, Arsenic etc., and Organometallic-salts etc., which will cause the gel incomplete curving even will be non-curved.

TYPICAL PROPERTIES

PROPERTY	TPS586	TPS5868	TEST METHOD	UNIT
Color	White (A part) Gray (B part)	White (A part) Gray (B part)	Visual	-
Resin base	Silicone	Silicone	-	-
A:B	100:100	100:100	-	-
Viscosity	5.7	8.0	ISO 3219	Pa.s
Density	2.3	2.8	ASTM D792	g/cm^3
Application temperature	-60~180	-60~180	-	°C
Pot life	25°C / 1.0 hr	25°C / 1.0 hr	By LiPOLY	-
Surface dry	25°C / 1.5 hr	25°C / 1.5 hr	By LiPOLY	-
Curing condition 1	25°C / 2.5 hr	25°C / 2.0 hr	By LiPOLY	-
Curing condition 2	70°C / 15 min	70°C / 20 min	By LiPOLY	-
Curing condition 3	120°C / 1 min	120°C / 1 min	By LiPOLY	-
Hardness	10	5	ASTM D2240	Shore A
Shelf life	24 months	24 months	-	-
ROHS & REACH	Compliant	Compliant	-	-
ELECTRICAL				
Dielectric breakdown	14	14	ASTM D149	KV/mm
Volume resistivity	$>10^{12}$	$>10^{12}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity	1.5	3.0	ASTM D5470	W/m*K

TPS589

Two-Part Thermal Conductive Sealing Glue

LiPOLY TPS589 is a two-part sealing gap filler, provides low viscosity and high fluidity. The high deformation material, which can be filling the gap closely, cover the tolerance, and has outstanding conductivity, makes is suitable for filling the peculiar gap.

FEATURES

/ Thermal conductivity: 0.8 W/m*K
/ Two-parts package and easy to use
/ Waterproof and air-tight
/ Thermally conductive vibration dampening

TYPICAL APPLICATION

/ Automotive electronics
/ Telecommunications
/ Computer and peripherals
/ Between any heat-generating component and a heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

PRESERVATION

/ It can be preserved for 24 months under the condition of unopened and under room temperature 30°C.

PRECAUTIONS

/ TPS589 The principle of moisture hardening is to harden by reacting with moisture in the air at room temperature. The hardening process starts from the surface in contact with the air and hardens in the deep direction, so the hardening process is a little slow. The speed of hardening is related to temperature and humidity. When there is not enough water vapor in the use environment to react, it may not be completely hardened.

TYPICAL PROPERTIES

PROPERTY	TPS589	TEST METHOD	UNIT
Color	White	Visual	-
Resin base	Silicone	-	-
A:B	100:3	-	-
Viscosity	5.0	ISO 3219	Pa.s
Density	1.8	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Curing condition	25°C / 18hr	By LiPOLY	-
Hardness	50	ASTM D2240	Shore A
Shelf life	24 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	14	ASTM D149	KV/mm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	0.8	ASTM D5470	W/m*K

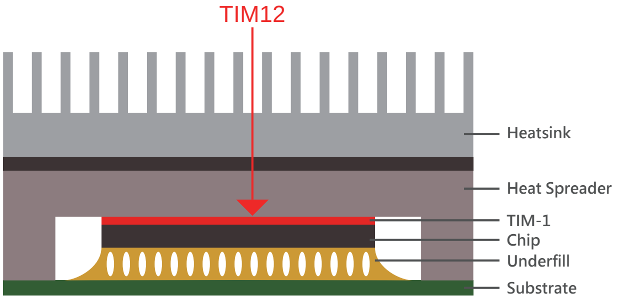
TIM12

Two-Part Thermal Conductive Die Attach Adhesive

LiPOLY's TIM12 is a two-part compound silicone base thermal conductive adhesive gel. which is mainly designed to provide efficient thermal transfer for the cooling of chip packaging. The high deformation properties perfectly fill small air gaps to eliminate tolerances. It's ideally suited for manual dispensing applicator and dispensing robot. Friendly design escape from high cost of cold-chain transportation and freeze preservation.)

FEATURES

/ Excellent thermal conductivity 2.0 W/m*K
/ No freeze preservation required.
/ Dispensable for serial manufacture
/ Adhesive for IC packaging design



TYPICAL APPLICATION

/ Designed to provide efficient thermal transfer
for the cooling of chip packaging as TIM-1.
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

/ Cartridges: 50ml

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 months under the condition of unopened and under room temperature 30°C.

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

It’s recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	TIM12	TEST METHOD	UNIT
Color	Gray (A part) White (B part)	Visual	-
Resin base	Silicone	-	-
Form	Grease	Visual	-
Viscosity A	190	ISO 3219	Pa.s
Viscosity B	150	ISO 3219	Pa.s
Density	2.7	ASTM D792	g/cm^3
Application temperature	-50~180	-	°C
Working time	25°C / 24hr	By LiPOLY	-
Cure conditions	125°C / 90 min	By LiPOLY	-
Volatile content	< 0.4	150°C x 24h	%
BLT	27	-	µm
Elongation	170	ASTM D412	%
Adhesive strength	0.64	-	-
ELECTRICAL			
Dielectric breakdown	25	ASTM D149	KV/mm
Surface resistivity	$>10^{13}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	2.0	ASTM D5470	W/m*K

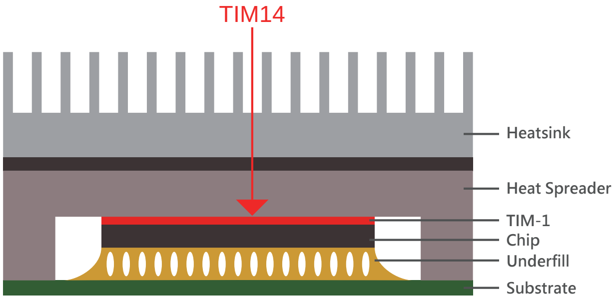
TIM14

Two-Part Thermal Conductive Die Attach Adhesive

LiPOLY's TIM14 is a two-part compound silicone base thermal conductive adhesive gel. which is mainly designed to provide efficient thermal transfer for the cooling of chip packaging. The high deformation properties perfectly fill small air gaps to eliminate tolerances. It's ideally suited for manual dispensing applicator and dispensing robot. Friendly design escape from high cost of cold-chain transportation and freeze preservation.)

FEATURES

/ Excellent thermal conductivity 4.0 W/m*K
/ No freeze preservation required
/ Dispensable for serial manufacture
/ Adhesive for IC packaging design



TYPICAL APPLICATION

/ Designed to provide efficient thermal transfer for the cooling of chip packaging as TIM-1.
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

/ Cartridges: 50ml

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 months under the condition of unopened and under room temperature 30°C.

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

It's recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	TIM14	TEST METHOD	UNIT
Color	Gray (A part) White (B part)	Visual	-
Resin base	Silicone	-	-
Form	Grease	Visual	-
Viscosity A	380	ISO 3219	Pa.s
Viscosity B	380	ISO 3219	Pa.s
Density	3.0	ASTM D792	g/cm³
Application temperature	-50~180	-	°C
Working time	25°C / 24hr	By LiPOLY	-
Cure conditions	125°C / 90 min	By LiPOLY	-
Volatile content	< 0.4	150°C x 24h	%
BLT	27	-	μm
Elongation	110	ASTM D412	%
Adhesive strength	3.5	-	kgf/cm²
ELECTRICAL			
Dielectric breakdown	25	ASTM D149	KV/mm
Surface resistivity	$>10^{13}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	4.0	ASTM D5470	W/m*K

D2000

Two-Part Curable Thermal Grease

LiPOLY D2000 is a two-part curable thermal grease. It can be cured quickly at room temperature and high temperature without pump-out effect. It is a highly reliable material. With a thermal conductivity of 2.0 W/m*K, has low thermal resistance. It is ideally suited for dispensing using the dispensing robot or by syringe.

FEATURES

/ Thermal conductivity:2.0 W/m*K
/ Cured and Re-workable thermal Grease.
/ Without Pump-out and Dry out concern.
/ Great reliability
/ Low thermal resistance and thinner Bond Line Thickness.

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ Mobile devices
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

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

DISPENSING INSTRUCTIONS

Use the disposable plastic static mixing nozzles to mix parts A and B together to the desired ratio. Liquid gap fillers can be dispensed using an automatic dispensing machine or a manual dispensing tool that can be provided by LiPOLY upon request/purchase. The disposable plastic static mixing nozzles cannot be re-used.

STORAGE

Two-part liquid gap fillers should be stored in climate-controlled environments at or below 30°C. Keep liquid gap fillers away from direct sunlight and away from high-temperature environments.

PRESERVATION

It can be preserved for 24 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.)

PRECAUTIONS

The two-part liquid gap filler may not cure properly if it comes into contact with certain substances, including amine, sulfur, organophosphorus compounds, and organotin compounds. Please avoid the following substances when handling: (N, P, S, Sn, Pb, Hg, Sb, Bi, As) Ensure a clean mixing container is used (e.g.: paper cup or plastic cup) before injecting the A and B parts into the mixing container. The plasticizer, wax from the cups, varnish or the epoxy from the oven may contaminate the A and B parts. You are reminded to pre-test the gap filler before using it.

PLEASE NOTE

It’s recommended that the diameter of mixing tube outlet should be 3mm at least, which can solve the possible problem of poor fluidity caused by ambient temperature.

TYPICAL PROPERTIES

PROPERTY	D2000	TEST METHOD	UNIT
Color	White (A part) Gray (B part)	Visual	-
Solid content	100% (Two-part : 100:100)	-	-
Viscosity A	95	ISO 3219	Pa.s
Viscosity B	95	ISO 3219	Pa.s
Density	2.8	ASTM D792	g/cm^3
Shelf life	24 months	-	-
ROHS & REACH	Compliant	-	-
SOLID(AFTER CURE)			
Thermal conductivity	2.0	ASTM D5470	W/m*K
Thermal impedance@2mils BLT	0.042	ASTM D5470	°C-in^2/ W
Bond line thickness	50	-	μm
Hardness	75	ASTM D2240	Shore OO
Heat capacity	1.0	ASTM E1269	J/g*K
Volume resistivity	>10^{12}	ASTM D257	Ohm-m
Dielectric breakdown	14	ASTM D149	KV/mm
Working temp (long term)	-60 ~ 200	-	°C
Working temp (short term)	288	-	°C
Operating ambient temp	20 ~ 30	-	°C
CURE SCHEDULE			
Pot life @ 25°C	10~15	By LiPOLY	min
Surface dry @ 25°C	25~30	By LiPOLY	min
Cure @ 25°C	35~40	By LiPOLY	min
Cure @ 100°C	80	By LiPOLY	sec
Cure @ 120°C	30	By LiPOLY	sec

TT3000

Nano Thermal Grease

LiPOLY TT3000 is a Nano type thermal interface material based on a unique formula. TT3000's formulation is solvent-free. We used a unique silicone oil which interacts with thermally conductive fillers, making the compounds extremely stable, preventing pump-out problems and other common failure mechanisms. TT3000 has high thermal conductivity, low thermal resistance, improving the components performance as well as the product lifecycle.

FEATURES

- / Thermal conductivity:6.0 W/m*K
- / Excellent thermal conductivity
- / Stable and homogeneous compound to ensure thermal performance
- / Formula can fill the gap at low pressure
- / High stability and reliability
- / Solvent-free formula
- / The product is qualified for ROHS and REACH

TYPICAL APPLICATION

- / CPU and chip coolers
- / Switching power supplies
- / Between any heat-generating component and heat Sink
- / 5G base station & infrastructure
- / EV electric vehicle

TYPICAL PROPERTIES

PROPERTY	TT3000	TEST METHOD	UNIT
Color	White	Visual	-
Resin base	Silicone	-	-
Filler	Non-Metal	-	-
Viscosity	300	ISO 3219	Pa.s
Density	3.3	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Bond line thickness	10	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	8	ASTM D149	KV/mm
Volume resistivity	$>10^{12}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@50psi	0.007	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	5.0	ASTM D5470	°C-mm^2/ W

CONFIGURATIONS

- / Tinplate Can: 1kg
- / 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.

G3380A/B/K/T

Thermal Grease

LiPOLY G3380 thermal interface grease has low thermal resistance and great thermal conductivity. G3380 has been used extensively in Consumer electronics and Microprocessors for their thermal control techniques. The grease can cover several coats on the component interface. When the component's temperature rises, the grease stickiness will decrease, which can moisten the interface components.

FEATURES

/ Thermal conductivity: 1.3 / 3.2 / 4.5 / 6.0 W/m*K
/ Low thermal impedance
/ Can be applied manually dispensed or screen printed
/ Low minimum bond line

TYPICAL APPLICATION

/ LED appliance
/ EV electric vehicle
/ CPU and chip coolers
/ Switching power supplies
/ 5G base station & infrastructure
/ Between any heat-generating component and heat sink

CONFIGURATIONS

/ Tinplate Can: 1kg
/ 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.

TYPICAL PROPERTIES

PROPERTY	G3380A	G3380B	G3380K	G3380T	TEST METHOD	UNIT
Color	White	Gray	Gray	Gray	Visual	-
Resin base	Silicone	Silicone	Silicone	Silicone	-	-
Filler	Non-Metal	Non-Metal	Non-Metal	Non-Metal	-	-
Viscosity	16.5	130	104	181	ISO 3219	Pa.s
Density	2.2	2.7	2.7	2.7	ASTM D792	g/cm^3
Application temperature	-60~180	-60~180	-60~180	-60~180	-	°C
Bond line thickness	55	33	30	30	-	µm
Shelf life	60 months	60 months	60 months	60 months	-	-
ROHS & REACH	Compliant	Compliant	Compliant	Compliant	-	-
ELECTRICAL						
Dielectric breakdown	14	11	11	11	ASTM D149	KV/mm
Volume resistivity	$>10^{11}$	$>10^{11}$	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm-m
THERMAL						
Thermal conductivity	1.3	3.2	4.5	6.0	ASTM D5470	W/m*K
Thermal impedance@50psi	0.05	0.03	0.02	0.01	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	32.2	19.3	12.9	6.4	ASTM D5470	°C-mm^2/ W

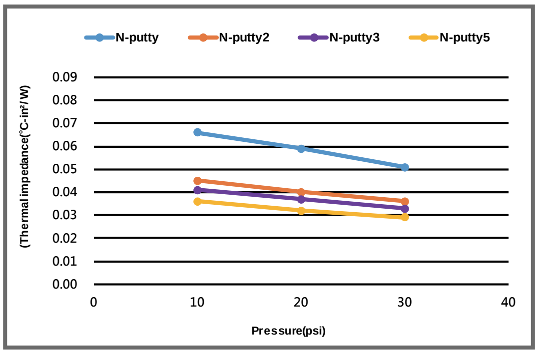
Note: All specifications provided by LiPOLY are subject to change without notice. The test methods used by LiPOLY are based on the TIM Tester method and ASTM D5470 test method. These test methods are used as the definition standards for LiPOLY. Property values provided in this document are not for product specifications or guaranteed. This document does not guarantee the performance and quality required for the purchaser's specific purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

Non-silicone Thermal Liquid Material Technical Data Product Testing Information

One-Component Series

(1) Thermal putty : This is a semi-fluid, paste-like thermal material with certain fluidity. For electronic products, the penetration of thermal materials can impact stability. High-quality thermal conductive putty must have extremely low thermal resistance and low stress, flexibly fill in the gaps, and compensate for tolerances to enhance thermal performance.

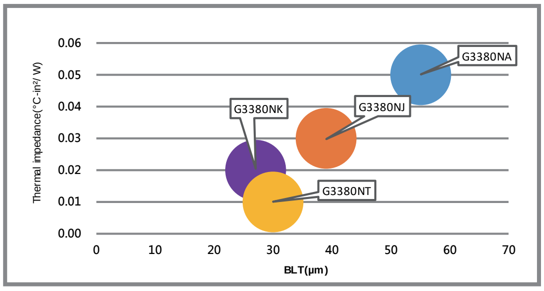
Graph of Pressure vs. Thermal Resistance



→ Thermal Conductivity Testing :
LiPOLY's N-putty series products are tested according to ASTM D5470, with thermal resistance results ranging from 0.029~0.051 (°C-in²/W), demonstrating the ultra-low thermal resistance characteristic of the N-putty series.

(2) Thermal Grease : Primarily used between heat sink and heat source. Thermal grease effectively fills irregular surface through simple application. High-quality thermal grease should have a low BLT (Bond Line Thickness) characteristic, as thermal resistance is proportional to material thickness. As assembly pressure increases, the BLT decreases, reducing thermal resistance. Therefore, controlling and minimizing BLT is a critical factor in the component assembly process.

Graph of Thermal Resistance vs. BLT



→ Bond Line Thickness Testing :
LiPOLY G3380N series has low BLT of 27~55μm, low thermal resistance 0.01~0.05(°C-in²/ W), providing outstanding thermal performance.

(3) Low Molecular Siloxane Testing for Thermal Putty and Grease

→ The chemical structure of cyclic polydimethylsiloxane (Ho-[Si(CH_3)$_2$O]n-H) is volatile and prone to evaporation. This low molecular siloxane volatilization can cause electrical contact failure in electronic products. N-putty & G3380N series testing results show that, as a non-silicone product, it contains no silicone and thus has no low molecular siloxane volatilization, eliminating the risk of electrical failure.

Ret. Time (min)	Compound Name	N-putty	N-putty2	N-putty3	N-putty5	G3380NA	G3380NJ	G3380NK	G3380NT
		Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)	Conc. (%)
1.48	D3 - Hexamethyl cyclotrisiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2.15	D4 - Octamethyl cyclotetrasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3.15	D5 - Decamethyl cyclopentasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4.55	D6 - Dodecamethyl cyclohexasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
5.95	D7 - Tetradecamethyl cycloheptasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
6.73	D8 - Hexadecamethyl cyclooctasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
7.30	D9 - Octadecamethyl octacyclononasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
8.50	D10 - Eisosamethyl cyclodecasiloxane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
D3 to D10		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

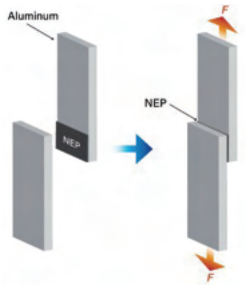
Thermal Liquid Gap Filler Series

Non-silicone Thermal Liquid Material Technical Data Product Testing Information

● Two-Components Series

(1) Thermal Adhesive : Cured at room or high temperatures to provide strong adhesion. With a non-silicone structure and no low molecular siloxane volatilization, the adhesive won’t release gases during heating, preventing electrical contact failure. This makes it suitable for optical products or sensitive electronic components. High-quality thermal adhesive should have excellent adhesive characteristics to ensure structural load capacity and longevity.

Testing Machine

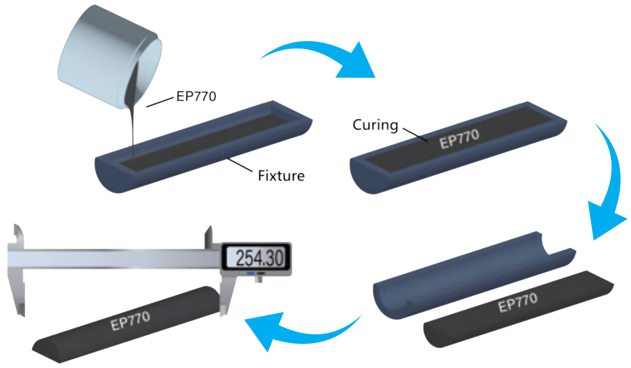


Adhesion Testing

→ **Ahdesion Testing** :
LiPOLY NEP series achieves an adhesion strength of up to 350 N/cm². After curing, the product exhibits excellent adhesion properties and high peel strength on metals.

	NEP220	NEP230	Unit
Adherence	350	300	N/cm^2

(2) Thermal Potting Adhesive : This liquid, thermally conductive adhesive provides long-term reliable protection for sensitive circuits within a specific temperature and humidity range. It features high hardness, low shrinkage, water and moisture resistance, chemical resistance, and yellowing resistance, It is ideal for potting applications with thermal conductivity requirements. High-quality potting adhesive should have low shrinkage to ensure that after curing, moisture does not seep through cracks, preserving thermal performance.



→ **Shrinkage Rate Testing** :
LiPOLY EP770 series shows a shrinkage rate of 0.01%, indicating extremely low shrinkage, which prevents poor filling results caused by excessive shrinkage.

Measurements of the length and width after curing, along with known mold dimensions, results a shrinkage rate of 0.01%.

(3) Low Molecular Siloxane Testing for Thermal Adhesive & Thermal Potting Adhesive
→ The chemical structure of cyclic polydimethylsiloxane (Ho-[Si(CH_3)$_2$O]n-H) is volatile and prone to evaporation. This low molecular siloxane volatilization can cause electrical contact failure in electronic products. NEP series and EP770 testing results show that, as a non-silicone product, it contains no silicone and thus has no low molecular siloxane volatilization, eliminating the risk of electrical failure.

Ret. Time (min)	Compound Name	NEP220	NEP230	EP770
		Conc. (%)	Conc. (%)	Conc. (%)
1.48	D3 - Hexamethyl cyclotrisiloxane	N.D.	N.D.	N.D.
2.15	D4 - Octamethyl cyclotetrasiloxane	N.D.	N.D.	N.D.
3.15	D5 - Decamethyl cyclopentasiloxane	N.D.	N.D.	N.D.
4.55	D6 - Dodecamethyl cyclohexasiloxane	N.D.	N.D.	N.D.
5.95	D7 - Tetradecamethyl cycloheptasiloxane	N.D.	N.D.	N.D.
6.73	D8 - Hexadecamethyl cyclooctasiloxane	N.D.	N.D.	N.D.
7.30	D9 - Octadecamethyl octacyclononasiloxane	N.D.	N.D.	N.D.
8.50	D10 - Eisosamethyl cyclodecasiloxane	N.D.	N.D.	N.D.
D3 to D10		N.D.	N.D.	N.D.

N-putty

Non-Silicone Thermal Conductive Putty

LiPOLY N-putty is a non-silicone thermally conductive material without volatilization of low molecular siloxane, and low total volatile gas. With a thermal conductivity of 3.5 W/m*K, the high deformation can perfectly fill small air gaps to eliminate tolerances. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:3.5 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

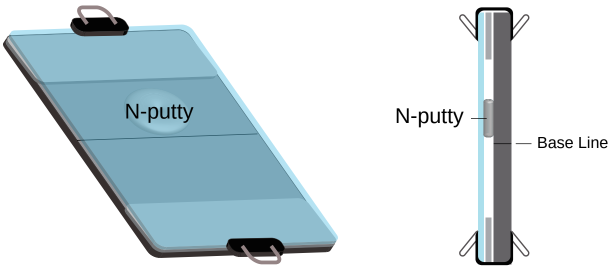
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	N-putty	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Non-Silicone	-	-
Viscosity	15000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	14	By LiPOLY	g/min
Density	3.0	ASTM D792	g/cm^3
Application temperature	-60~150	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.5	ASTM D5470	W/m*K
Thermal impedance@10psi / 80°C	0.066	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 80°C	0.059	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 80°C	0.051	ASTM D5470	°C-in^2/ W

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

N-putty2

Non-Silicone Thermal Conductive Putty

LiPOLY N-putty2 is a non-silicone thermally conductive material without volatilization of low molecular siloxane, and low total volatile gas. With a thermal conductivity of 5.0 W/m*K, the high deformation can perfectly fill small air gaps to eliminate tolerances. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

/ Thermal conductivity:5.0 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

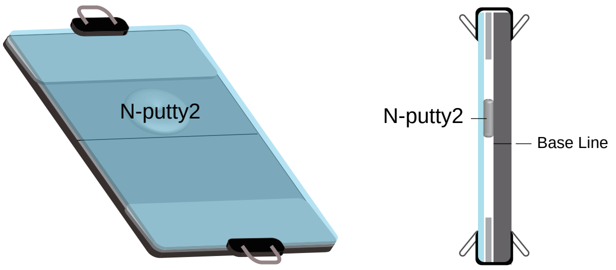
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	N-putty2	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Non-Silicone	-	-
Viscosity	15000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	14	By LiPOLY	g/min
Density	3.2	ASTM D792	g/cm^3
Application temperature	-60~150	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 80°C	0.045	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 80°C	0.040	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 80°C	0.036	ASTM D5470	°C-in^2/ W

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

N-putty3

Non-Silicone Thermal Conductive Putty

LiPOLY N-putty3 is a non-silicone thermally conductive material without volatilization of low molecular siloxane, and low total volatile gas. With a thermal conductivity of 7.0 W/m*K, the high deformation can perfectly fill small air gaps to eliminate tolerances. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

FEATURES

- / Thermal conductivity:7.0 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

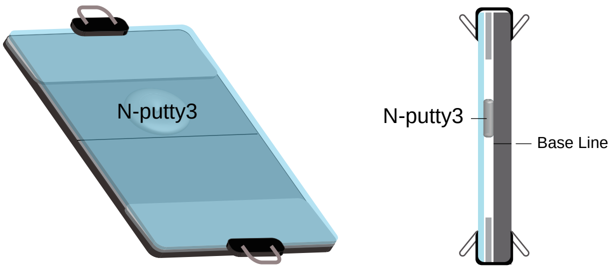
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	N-putty3	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Non-Silicone	-	-
Viscosity	25000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	13	By LiPOLY	g/min
Density	3.4	ASTM D792	g/cm^3
Application temperature	-60~150	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	12	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	7.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 80°C	0.041	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 80°C	0.037	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 80°C	0.033	ASTM D5470	°C-in^2/ W

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

N-putty5

Non-Silicone Thermal Conductive Putty

LiPOLY N-putty5 is a non-silicone thermally conductive material without volatilization of low molecular siloxane, and low total volatile gas. With a thermal conductivity of 9.0 W/m*K, the high deformation can perfectly fill small air gaps to eliminate tolerances. It can also overcome spillage and drying issues to increase thermal conductivity, making it ideal for dispensing with dispensing robots.

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

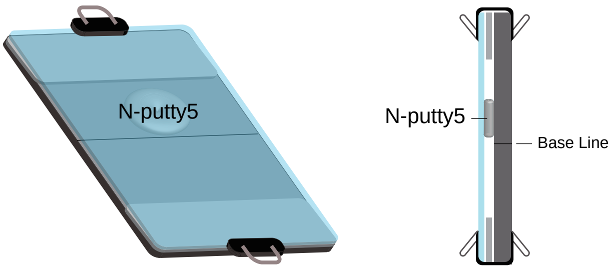
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

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

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

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℃. (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/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/cm²
Lap shear to aluminum	350	ASTM D1002	N/cm²
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

NEP230

Non-Silicone Two-Part Thermal Conductive Adhesive

LiPOLY NEP230 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 3.0 W/m*K, NEP230 provides high thermal conductivity and low thermal impedance. It is ideally suited for dispensing using the dispensing robot or by syringe.

FEATURES

- / Thermal conductivity: 3.0 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℃. (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	NEP230	TEST METHOD	UNIT
Color	Black Gray (A part) Black (B part)	Visual	-
Resin base	Epoxy	-	-
A:B	100:100	-	-
Viscosity A	253	ISO 3219	Pa.s
Viscosity B	250	ISO 3219	Pa.s
Thixotropic Index	2.9	ISO 3219	-
Density	2.8	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	60	ISO527	N/cm^2
Lap shear to aluminum	300	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	3.0	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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

EP770

Non-Silicone Two-Part Thermal Conductive Sealing Glue

LiPOLY EP770 is a silicone-free two-part sealing gap filler and caulking agent without low molecular siloxane volatilization. EP770 provides low viscosity and high fluidity. The high deformation material, which can be filling the gap closely, cover the tolerance, and has outstanding conductivity, makes is suitable for filling the peculiar gap.

FEATURES

/ Thermal conductivity: 2.5 W/m*K
/ Thermally conductive vibration dampening
/ Low mixing viscosity
/ Extremely low Shrinkage rate 0.01%.
/ Epoxy Based material with high hardness for support
/ Slow sedimentation rate due to Resin & powder mixing perfectly via superb processing technology. It leads EP770-s material easy to mix and disperse

TYPICAL APPLICATION

/ Motor: Torque motor、Linear Motor Servo motor
/ IGBT module
/ Electronic components: IC、CPU MOS、Mother Board
/ Wireless Hub
/ Automotive electronics
/ Between any heat-generating component and a heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

/ Tinplate Can:1 kg
/ Other special and custom sizes are available upon request

PRESERVATION

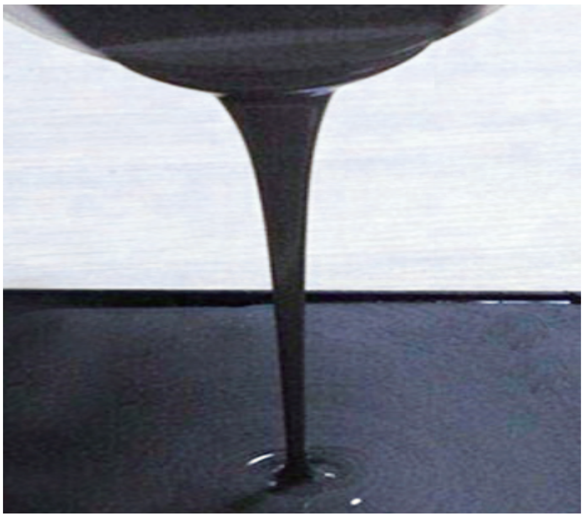
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

PLEASE NOTE

It is recommended to preheat the material to 40°C for 20 minutes or 50°C for 10 minutes if ambient temperature is less than 25°C for better extrusion and mixing.

TYPICAL PROPERTIES

PROPERTY	EP770	TEST METHOD	UNIT
Color	Black	Visual	-
Resin base	Epoxy	-	-
A:B	100:10	-	-
Viscosity A	350	ISO 3219	Pa.s
Viscosity mixed	5	ISO 3219	Pa.s
Shrinkage rate	0.01	ASTM D2566	%
Density	1.8	ASTM D792	g/cm^3
Application temperature	-60~150	-	°C
Curing condition 1	80°C/1.5 hrs	By LiPOLY	-
Curing condition 2	25°C/35 hrs	By LiPOLY	-
Hardness	80	ASTM D2240	Shore A
Tensile strength	73	ISO527	N/cm^2
Lap shear to aluminum	412	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	2.5	ASTM D5470	W/m*K



G3380NA/NJ/NK/NT

Non-Silicone Thermal Grease

LiPOLY Non-Silicone Thermal Compound G3380N is made of non-silicon resin material and pollution of optical surfaces. Low thermal resistance and great thermal conductivity. G3380N has been used extensively in Consumer electronics and Microprocessors for their thermal control techniques. The grease can cover several coats on the component interface. When the component's temperature rises, the grease stickiness will decrease, which can moisten the interface components.

FEATURES

/ Thermal conductivity: 1.3 / 3.2 / 4.5 / 6.0 W/m*K
/ No outgassing
/ Low thermal impedance

TYPICAL APPLICATION

/ CPU and chip coolers
/ Switching power supplies
/ LED appliance
/ Between any heat-generating component and heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

CONFIGURATIONS

/ Tinplate Can:1kg
/ 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℃.

TYPICAL PROPERTIES

PROPERTY	G3380NA	G3380NJ	G3380NK	G3380NT	TEST METHOD	UNIT
Color	White	Gray	Gray	Gray	Visual	-
Resin base	Non-Silicone	Non-Silicone	Non-Silicone	Non-Silicone	-	-
Filler	Non-Metal	Non-Metal	Non-Metal	Non-Metal	-	-
Viscosity	96	120	106	146	ISO 3219	Pa.s
Density	2.2	2.7	2.7	2.8	ASTM D792	g/cm^3
Application temperature	-60~150	-60~150	-60~150	-60~150	-	°C
Bond line thickness	55	39	27	30	-	µm
Shelf life	60 months	60 months	60 months	60 months	-	-
ROHS & REACH	Compliant	Compliant	Compliant	Compliant	-	-
ELECTRICAL						
Dielectric breakdown	14	11	11	11	ASTM D149	KV/mm
Volume resistivity	>10^{11}	>10^{11}	>10^{11}	>10^{11}	ASTM D257	Ohm-m
THERMAL						
Thermal conductivity	1.3	3.2	4.5	6.0	ASTM D5470	W/m*K
Thermal impedance@50psi	0.05	0.03	0.02	0.01	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi	32.2	19.3	12.9	6.4	ASTM D5470	°C-mm^2/ W

Thermal Conductive Absorber Series

Silicone Thermal Conductive Absorber

Thermal conductive RF Absorber Pad
TEM96A / TM96B / TEM96C / TEM96D / TEM96E

TEM series is a composite gap filler material with the functions of heat conduction and electromagnetic wave absorption. Thermal conductivity: 2.0~6.0 W/m*K for application frequency range 10MHz-77GHz. It has features of high flexibility and high compressibility. Customized die-cut and shape molding are all available. Shiu Li has professional research and development capabilities which can provide cutting-edge thermal solutions immediately to meet all customers' need for today's advanced products.

Thermal Conductive RF Absorber Film

Thermal conductive RF Absorber Film
Ti900-s

Ti series is a composite thin material that simultaneously offers thermal conductivity and electromagnetic wave absorption capabilities. It is a gap-filling material with a thermal conductivity of 1.5 W/m*K, suitable for an application frequency range of 10 MHz to 77 GHz. The material is flexible, compressible, and can be custom-cut or die-cut to specific shapes.

5G mmWave Thermal Conductive Gel Pad

5G mmWave Thermal Conductive Gel Pad
DTT44-s / DTT65-s

DTT series is specially designed for network communication signal transmission. It focuses on D_k and D_f to reduce interference in RF modules. Thermal conductivity: 3.0~5.0 W/m*K. Hardness Shore OO/50~55 not only provides flexibility, compressibility, insulation, good self-adhesiveness, also can remove tolerances of the mechanism design. We provide customized die-cut and shape molding. Shiu Li has professional research and development capabilities which can provide cutting-edge thermal solutions immediately to meet all customers' need for today's advanced products.

Non-Silicone Thermal Conductive Absorber

Non-Silicone Thermal conductive RF Absorber Pad
NT92 / NT93 / NT94

NT series is a composite gap filler material with the functions of heat conduction and electromagnetic wave absorption. Thermal conductivity: 2.0~4.0 W/m*K for application frequency range 10MHz-77GHz. It has features of high flexibility and high compressibility. Customized die-cut and shape molding are all available. Shiu Li has professional research and development capabilities which can provide cutting-edge thermal solutions immediately to meet all customers' need for today's advanced products.

What is Low-molecular-weight siloxane?

The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane $\mathrm{Ho\text{-}[Si(CH_3)_2O]n\text{-}H}$ is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.

TEM96A

Thermal Conductive RF Absorber Pad

LiPOLY TEM96A is a thermally conductive absorber based upon soft magnetic materials dispersed in a polymeric resin. It has a thermal conductivity of 2.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 2.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
/ DDR II module, DVD applications, Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

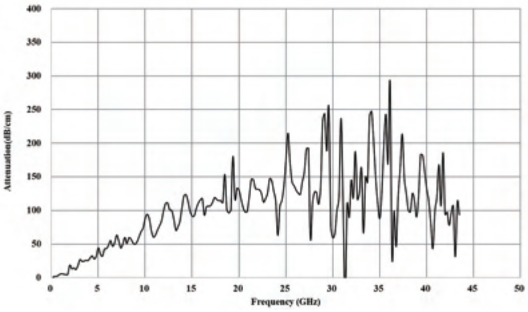
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

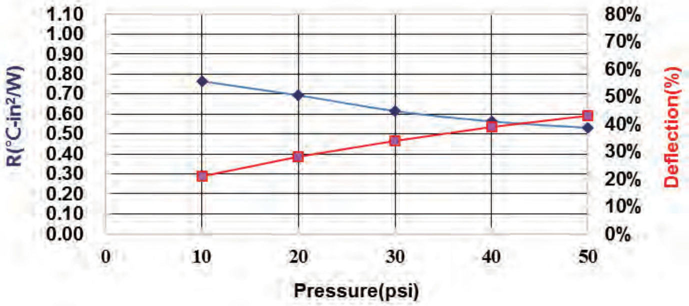
TYPICAL PROPERTIES

PROPERTY	TEM96A	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	4.4	ASTM D792	g/cm^3
Hardness	40	ASTM D2240	Shore OO
TML	0.14	By LiPOLY	%
Water absorption	0.04	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	21	ASTM D5470 modify	%
Deflection @20 psi	28	ASTM D5470 modify	%
Deflection @30 psi	34	ASTM D5470 modify	%
Deflection @40 psi	39	ASTM D5470 modify	%
Deflection @50 psi	43	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	16.6	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	24.0	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	43.5	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	45.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	93.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	116	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	131	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	106	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal Conductivity	2.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.762	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.692	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.614	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.562	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.530	ASTM D5470	°C-in^2/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



TEM96B

Thermal Conductive RF Absorber Pad

LiPOLY TEM96B is a thermally conductive absorber based upon soft magnetic materials dispersed in a polymeric resin. It has a thermal conductivity of 3.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 3.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
/ DDR II module, DVD applications, Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

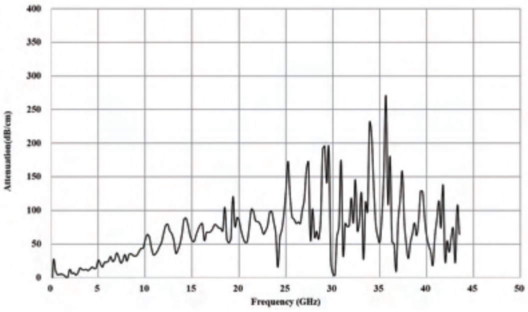
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

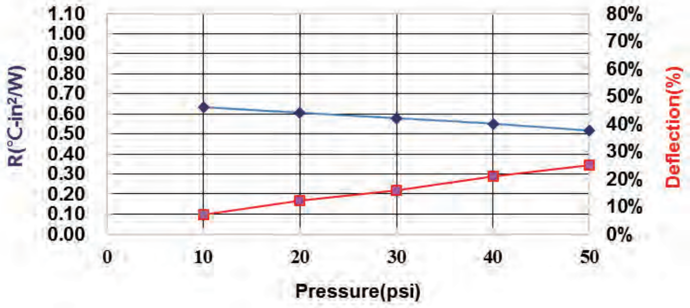
TYPICAL PROPERTIES

PROPERTY	TEM96B	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	3.9	ASTM D792	g/cm^3
Hardness	45	ASTM D2240	Shore OO
TML	0.07	By LiPOLY	%
Water absorption	0.04	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	7	ASTM D5470 modify	%
Deflection @20 psi	12	ASTM D5470 modify	%
Deflection @30 psi	16	ASTM D5470 modify	%
Deflection @40 psi	21	ASTM D5470 modify	%
Deflection @50 psi	25	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	7.0	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	8.6	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	20.3	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	24.1	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	52.5	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	70.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	75.0	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	64.4	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.634	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.606	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.579	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.551	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.516	ASTM D5470	°C-in^2/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



TEM96C

Thermal Conductive RF Absorber Pad

LiPOLY TEM96C is a thermally conductive absorber based upon soft magnetic materials dispersed in a polymeric resin. It has a thermal conductivity of 4.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 4.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
/ DDR II module, DVD applications, Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

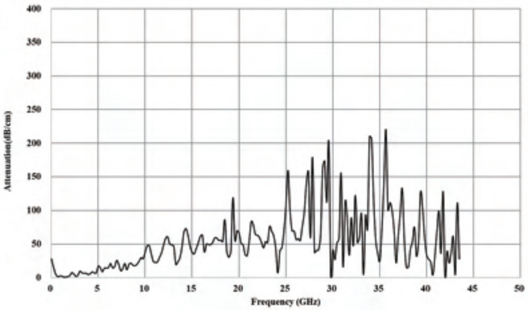
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Route
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

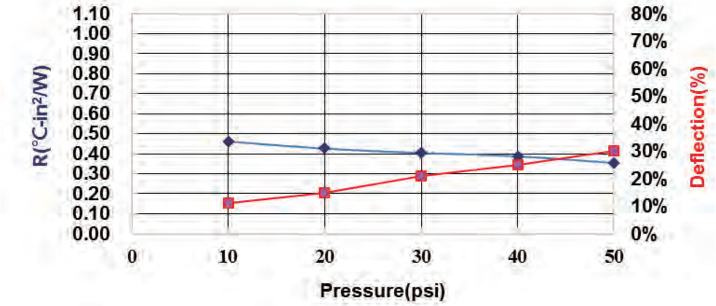
TYPICAL PROPERTIES

PROPERTY	TEM96C	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	3.6	ASTM D792	g/cm³
Hardness	55	ASTM D2240	Shore OO
TML	0.04	By LiPOLY	%
Water absorption	0.04	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	11	ASTM D5470 modify	%
Deflection @20 psi	15	ASTM D5470 modify	%
Deflection @30 psi	21	ASTM D5470 modify	%
Deflection @40 psi	25	ASTM D5470 modify	%
Deflection @50 psi	30	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	7.0	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	6.7	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	15.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	14.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	43.7	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	56.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	76.6	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	45.5	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	4.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.462	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.426	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.404	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.387	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.353	ASTM D5470	°C-in²/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



TEM96D

Thermal Conductive RF Absorber Pad

LiPOLY TEM96D is a thermally conductive absorber based upon soft magnetic materials dispersed in a polymeric resin. It has a thermal conductivity of 5.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 5.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
/ DDR II module, DVD applications, Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

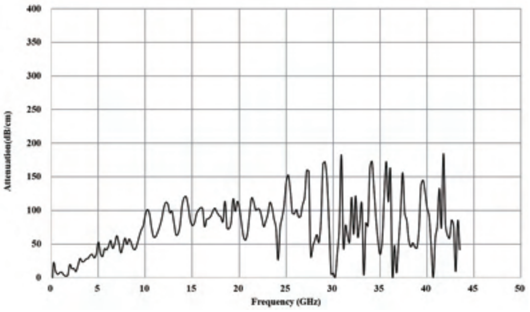
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

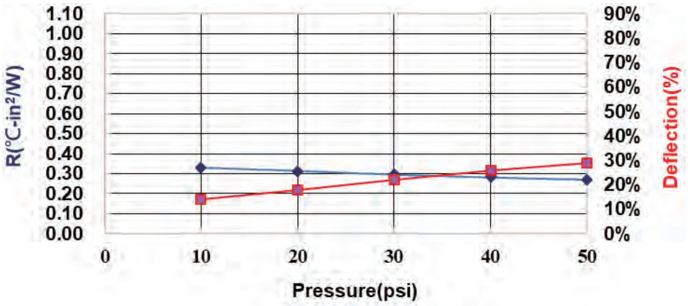
TYPICAL PROPERTIES

PROPERTY	TEM96D	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	3.6	ASTM D792	g/cm³
Hardness	65	ASTM D2240	Shore OO
TML	0.04	By LiPOLY	%
Water absorption	0.04	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	14	ASTM D5470 modify	%
Deflection @20 psi	18	ASTM D5470 modify	%
Deflection @30 psi	22	ASTM D5470 modify	%
Deflection @40 psi	26	ASTM D5470 modify	%
Deflection @50 psi	29	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	18.9	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	27.4	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	52.6	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	50.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	111.6	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	110.5	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	58.9	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	60.0	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.329	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.314	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.296	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.283	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.272	ASTM D5470	°C-in²/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



TEM96E

Thermal Conductive RF Absorber Pad

LiPOLY TEM96E is a thermally conductive absorber based upon soft magnetic materials dispersed in a polymeric resin. It has a thermal conductivity of 6.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 6.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC,
Telecom device, Wireless hub
/ DDR II module, DVD applications,
Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

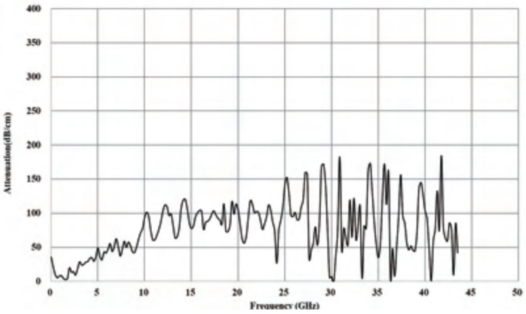
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

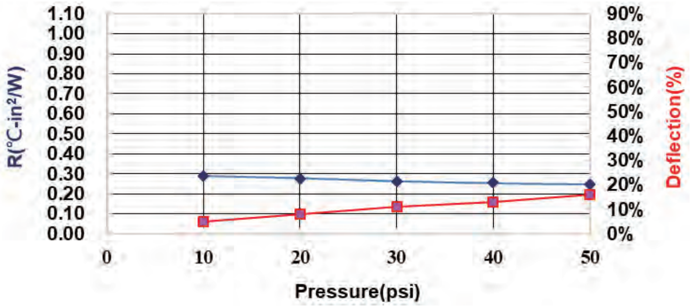
TYPICAL PROPERTIES

PROPERTY	TEM96E	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	3.8	ASTM D792	g/cm^3
Hardness	75	ASTM D2240	Shore OO
TML	0.04	By LiPOLY	%
Water absorption	0.04	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	5	ASTM D5470 modify	%
Deflection @20 psi	8	ASTM D5470 modify	%
Deflection @30 psi	11	ASTM D5470 modify	%
Deflection @40 psi	13	ASTM D5470 modify	%
Deflection @50 psi	16	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	17.4	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	28.6	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	49.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	44.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	94.2	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	91.1	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	88.4	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	41.5	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.288	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.278	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.264	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.255	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.250	ASTM D5470	°C-in^2/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



Ti900-s

Thermal Conductive RF Absorber Film

LiPOLY Ti900-s is a thermally conductive absorber based upon soft magnetic materials dispersed in a polymeric resin. It has a thermal conductivity of 1.5 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 1.5 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC,
Telecom device, Wireless hub
/ DDR II module, DVD applications,
Hand-set applications

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

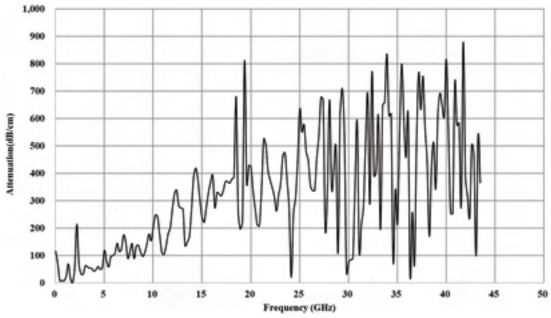
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

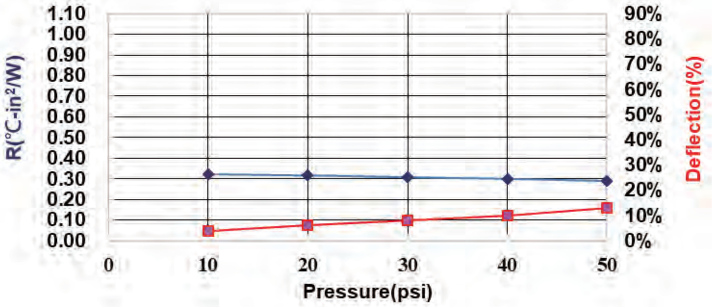
TYPICAL PROPERTIES

PROPERTY	Ti900-s	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.2	ASTM D374	mm
Density	3.1	ASTM D792	g/cm^3
Hardness	25	ASTM D2240	Shore A
TML	0.04	By LiPOLY	%
Water absorption	0.04	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION			
Deflection @10 psi	4	ASTM D5470 modify	%
Deflection @20 psi	6	ASTM D5470 modify	%
Deflection @30 psi	8	ASTM D5470 modify	%
Deflection @40 psi	10	ASTM D5470 modify	%
Deflection @50 psi	13	ASTM D5470 modify	%
EMI Attenuation			
EMI attenuation@ 2.4 GHz	68.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	62.8	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	124.5	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	110.0	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	276.3	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	390.7	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	523.9	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	452.4	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^4$	ASTM D257	Ohm
Volume resistivity	$>10^4$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	1.5	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.324	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.318	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.308	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.300	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.288	ASTM D5470	°C-in^2/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



DTT44-s

5G mmWave Thermal Conductive Gel Pad

LiPOLY DTT44-s is a soft thermally conductive gel pad specifically designed for network ing communication applications.DTT44-s is designed to focus on D_k and D_f to reduce interference in RF modules. DTT44-s has a thermal conductivity of 3.0 W/m*K. This product can be supplied as stan dard sheets, custom die-cuts or custom molded parts making it suitable for a wide range of applications.

FEATURES

/ Lightweight, Low Density
Thermal conductivity: 3.0 W/m*K
/ Hardness: Shore OO/50
/ Low dielectric constant
/ For high frequency applications
/ Available in a range of thicknesses

TYPICAL APPLICATION

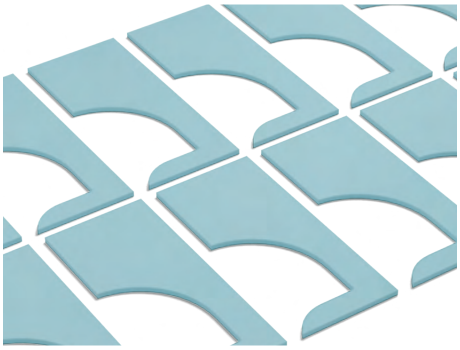
/ Communications satellite
/ Satellite positioning devices
/ IoT devices
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

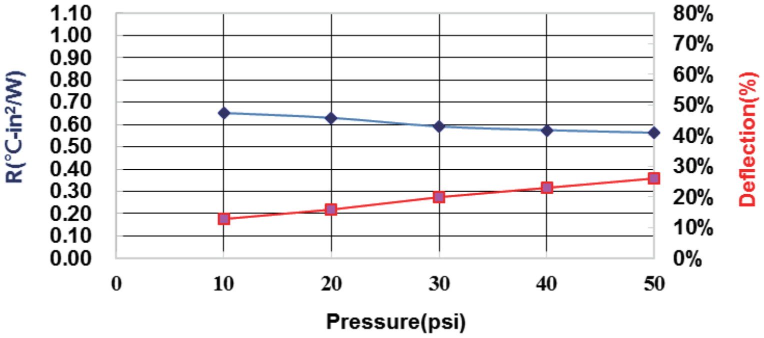
/ Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	DTT44-s	TEST METHOD	UNIT
Color	Blue	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.2	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Water absorption	0.02	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	13	ASTM D5470 modify	%
Deflection @20 psi	16	ASTM D5470 modify	%
Deflection @30 psi	20	ASTM D5470 modify	%
Deflection @40 psi	23	ASTM D5470 modify	%
Deflection @50 psi	26	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	11	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@2GHz D_k	4.115	ASTM D150	-
Dielectric constant@6GHz D_k	4.214	ASTM D150	-
Dielectric constant@10GHz D_k	3.983	ASTM D150	-
Dissipation factor@2GHz D_f	0.00486	ASTM D150	-
Dissipation factor@6GHz D_f	0.00704	ASTM D150	-
Dissipation factor@10GHz D_f	0.00940	ASTM D150	-
THERMAL			
Thermal conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.652	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.630	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.591	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.574	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.562	ASTM D5470	°C-in^2/ W



Thermal Impedance vs. Pressure vs. Deflection



DTT65-s

5G mmWave Thermal Conductive Gel Pad

LiPOLY DTT65-s is a soft thermally conductive gel pad specifically designed for network ing communication applications.DTT65-s is designed to focus on D_k and D_f to reduce interference in RF modules. DTT65-s has a thermal conductivity of 5.0 W/m*K. This product can be supplied as stan dard sheets, custom die-cuts or custom molded parts making it suitable for a wide range of applications.

FEATURES

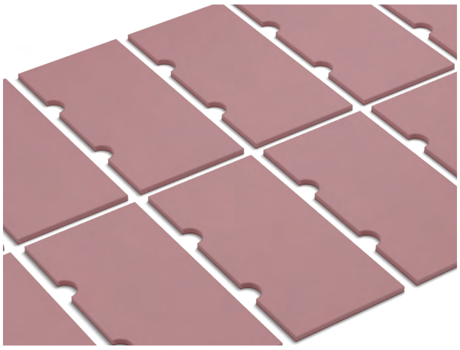
/ Lightweight, Low Density
Thermal conductivity: 5.0 W/m*K
/ Hardness: Shore OO/50
/ Low dielectric constant
/ For high frequency applications
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Communications satellite
/ Satellite positioning devices
/ IoT devices
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

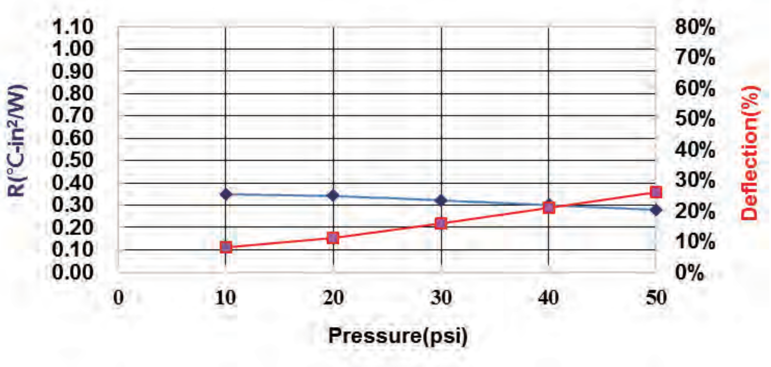
/ Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	DTT65-s	TEST METHOD	UNIT
Color	Red	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.1	ASTM D792	g/cm^3
Hardness	55	ASTM D2240	Shore OO
Water absorption	0.005	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	8	ASTM D5470 modify	%
Deflection @20 psi	11	ASTM D5470 modify	%
Deflection @30 psi	16	ASTM D5470 modify	%
Deflection @40 psi	21	ASTM D5470 modify	%
Deflection @50 psi	26	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	10	ASTM D149	KV/mm
Surface resistivity	$>10^{12}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
Dielectric constant@2GHz D_k	4.131	ASTM D150	-
Dielectric constant@6GHz D_k	4.058	ASTM D150	-
Dielectric constant@10GHz D_k	4.013	ASTM D150	-
Dissipation factor@2GHz D_f	0.00509	ASTM D150	-
Dissipation factor@6GHz D_f	0.00658	ASTM D150	-
Dissipation factor@10GHz D_f	0.00780	ASTM D150	-
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.350	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.342	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.323	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.302	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.281	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection

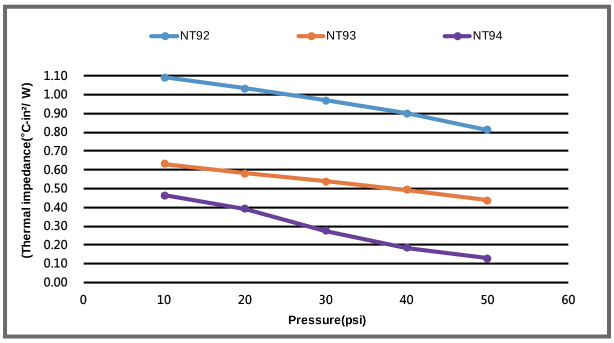


Non-Silicone Thermal Conductivity Absorber Technical Information Product related testing

(1) Thermal Conductivity Test

NT series products were tested for thermal performance in accordance with ASTM D5470 specifications. The test results showed that the thermal resistance value is: 0.128~0.812 (℃-in²/W) and prove that NT series products with ultra-low thermal resistance characteristics.

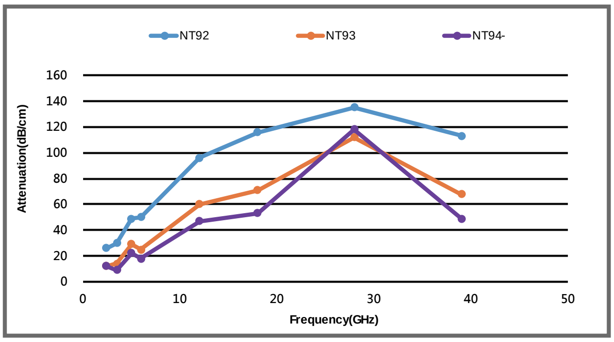
Pressure vs Thermal Resistance Graph



(2) Electromagnetic Interference Test

NT series products have good electromagnetic wave absorption and electromagnetic shielding functions; convert electromagnetic wave energy into heat energy for rapid loss but won't cause electromagnetic waves to be reflected back and forth in the shielding cavity; reduce interference of clutter on their own equipment and effectively suppress electronics from High frequency noise generated in the device.

Frequency vs Attenuation Graph



(3) Low Molecular Siloxane Test

N series test results show that non-silicone products do not contain silicone, no low molecular siloxane volatilizes, and there is no risk of electrical failure.

Ret. Time (min)	Compound Name	NT92	NT93	NT94
		Conc. (%)	Conc. (%)	Conc. (%)
1.48	D3 - Hexamethyl cyclotrisiloxane	N.D.	N.D.	N.D.
2.15	D4 - Octamethyl cyclotetrasiloxane	N.D.	N.D.	N.D.
3.15	D5 - Decamethyl cyclopentasiloxane	N.D.	N.D.	N.D.
4.55	D6 - Dodecamethyl cyclohexasiloxane	N.D.	N.D.	N.D.
5.95	D7 - Tetradecamethyl cycloheptasiloxane	N.D.	N.D.	N.D.
6.73	D8 - Hexadecamethyl cyclooctasiloxane	N.D.	N.D.	N.D.
7.30	D9 - Octadecamethyl octacyclononasiloxane	N.D.	N.D.	N.D.
8.50	D10 - Eisosamethyl cyclodecasiloxane	N.D.	N.D.	N.D.
D3 to D10		N.D.	N.D.	N.D.

LiPOLY®
SHIU LI TECHNOLOGY CO.,LTD

NT92

Non-Silicone Thermal Conductive RF Absorber Pad

LiPOLY NT92 is a thermally conductive absorber based upon soft magnetic materials dispersed in a non-silicone resin. It has a thermal conductivity of 2.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

- / Thermal conductivity: 2.0 W/m*K
- / Excellent absorption characteristics
- / Naturally tacky
- / Reworkable

TYPICAL APPLICATION

- / IC, CPU, MOS, LED, M/B, Heat sink
- / LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
- / DDR II module, DVD applications, Hand-set applications
- / 5G base station & infrastructure
- / EV electric vehicle

SPECIFICATIONS

- / Sheet form
- / Die-cut parts

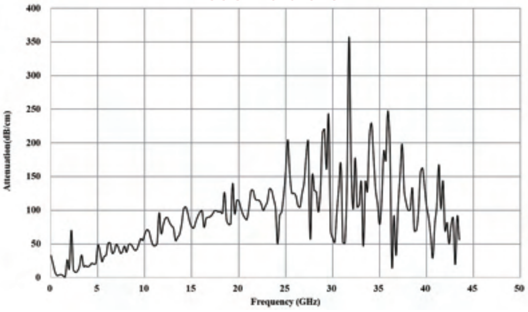
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

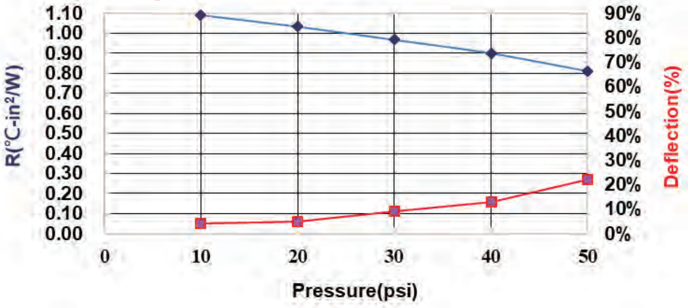
TYPICAL PROPERTIES

PROPERTY	NT92	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	4.2	ASTM D792	g/cm^3
Hardness	60	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	4	ASTM D5470 modify	%
Deflection @20 psi	5	ASTM D5470 modify	%
Deflection @30 psi	9	ASTM D5470 modify	%
Deflection @40 psi	13	ASTM D5470 modify	%
Deflection @50 psi	22	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	26	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	30	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	49	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	50	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	96	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	116	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	135	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	113	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{8}$	ASTM D257	Ohm-m
THERMAL			
Thermal Conductivity	2.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	1.091	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	1.034	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.968	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.901	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.812	ASTM D5470	°C-in^2/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



NT93

Non-Silicone Thermal Conductive RF Absorber Pad

LiPOLY NT93 is a thermally conductive absorber based upon soft magnetic materials dispersed in a non-silicone resin. It has a thermal conductivity of 3.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 3.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
/ DDR II module, DVD applications, Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

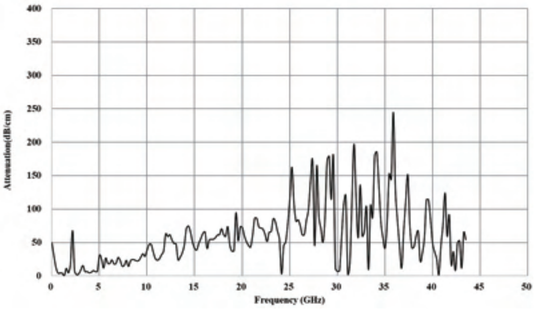
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

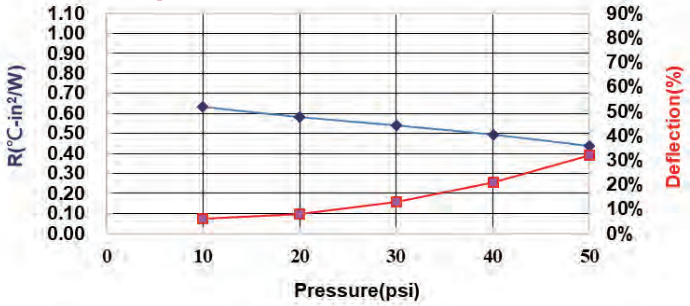
TYPICAL PROPERTIES

PROPERTY	NT93	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	3.7	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	6	ASTM D5470 modify	%
Deflection @20 psi	8	ASTM D5470 modify	%
Deflection @30 psi	13	ASTM D5470 modify	%
Deflection @40 psi	21	ASTM D5470 modify	%
Deflection @50 psi	32	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	12	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	14	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	29	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	25	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	60	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	71	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	112	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	68	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal Conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.632	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.581	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.539	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.493	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.436	ASTM D5470	°C-in^2/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

NT94

Non-Silicone Thermal Conductive RF Absorber Pad

LiPOLY NT94 is a thermally conductive absorber based upon soft magnetic materials dispersed in a non-silicone resin. It has a thermal conductivity of 4.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

FEATURES

/ Thermal conductivity: 4.0 W/m*K
/ Excellent absorption characteristics
/ Naturally tacky
/ Reworkable

TYPICAL APPLICATION

/ IC, CPU, MOS, LED, M/B, Heat sink
/ LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
/ DDR II module, DVD applications, Hand-set applications
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

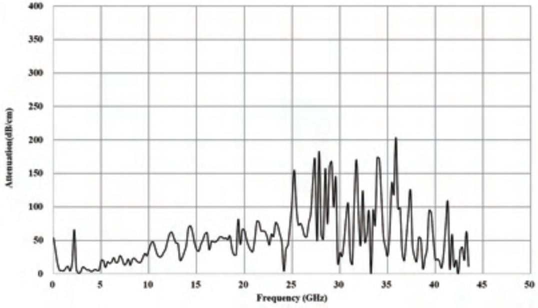
FREQUENCY APPLICATION

2.4 GHz	Wi-Fi Router , Bluetooth
3.5 GHz	5G Mobile Networks
5.0 GHz	Wi-Fi Router
6.0 GHz	Wi-Fi Router
12~18 GHz	Low Earth Orbit (LEO) System
28 GHz	5G Mobile Networks
39 GHz	5G Mobile Networks

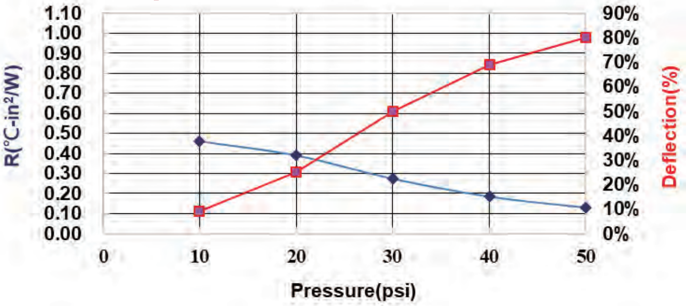
TYPICAL PROPERTIES

PROPERTY	NT94	TEST METHOD	UNIT
Color	Dark Gray	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	0.5~5.0	ASTM D374	mm
Density	3.6	ASTM D792	g/cm³
Hardness	65	ASTM D2240	Shore OO
Application temperature	-60~125	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	9	ASTM D5470 modify	%
Deflection @20 psi	25	ASTM D5470 modify	%
Deflection @30 psi	50	ASTM D5470 modify	%
Deflection @40 psi	69	ASTM D5470 modify	%
Deflection @50 psi	80	ASTM D5470 modify	%
EMI Attenuation @1.0mm			
EMI attenuation@ 2.4 GHz	12	ASTM D4935 modify	dB/cm
EMI attenuation@ 3.5 GHz	9	ASTM D4935 modify	dB/cm
EMI attenuation@ 5.0 GHz	22	ASTM D4935 modify	dB/cm
EMI attenuation@ 6.0 GHz	18	ASTM D4935 modify	dB/cm
EMI attenuation@ 12 GHz	47	ASTM D4935 modify	dB/cm
EMI attenuation@ 18 GHz	53	ASTM D4935 modify	dB/cm
EMI attenuation@ 28 GHz	118	ASTM D4935 modify	dB/cm
EMI attenuation@ 39 GHz	49	ASTM D4935 modify	dB/cm
ELECTRICAL			
Surface resistivity	$>10^{12}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal Conductivity	4.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.463	ASTM D5470	°C-in²/ W
Thermal impedance@20 psi	0.392	ASTM D5470	°C-in²/ W
Thermal impedance@30 psi	0.274	ASTM D5470	°C-in²/ W
Thermal impedance@40 psi	0.184	ASTM D5470	°C-in²/ W
Thermal impedance@50 psi	0.128	ASTM D5470	°C-in²/ W

Attenuation



Thermal Impedance vs. Pressure vs. Deflection



Thermal Conductive Tape Series

Silicone Thermal Conductive Tape

UL Flammability Thermal Conductive Tape
ST6000-S

ST6000-S is a high-temperature resistant, substrate-free thermal conductive tape with a thermal conductivity of 1.8 W/m*K, capable of withstanding short-term temperatures up to 288°C. Its adhesion and strength increase as temperature and pressure rise. This tape is designed to securely bond heat sinks to power-consuming components without the need for additional clamping devices and can be custom cut and die-cut to specifications.

High Temperature Thermal Conductive Tape
ST6000F

ST6000F is a high-temperature resistant thermal conductive tape capable of withstanding short-term temperatures up to 288°C. It has a thermal conductivity of 1.2 W/m*K. The adhesion and strength of the tape increase as temperature and pressure rise. This tape is designed to securely bond heat sinks to power-consuming components without the need for additional clamping devices and can be custom cut and die-cut to specifications.

Non-Silicone Thermal Conductive Tape

What is Low-molecular-weight siloxane?
The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane Ho-[Si(CH_3)$_2$O]n-H is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.

UL Flammability Thermal Conductive Tape
AT910

AT910 series is a thermally conductive tape with high insulation and high temperature resistance. Thermal conductivity: 1.0 W/m*K. The viscosity and strength of the thermal tape will increase when temperature rise. Customized die-cut and shape molding are all available which can meet the special needs of customers in the face of today’s advanced products.

Insulated Thermal Conductive Tape
AT900A / AT900C / AT920-s

AT series is a thermally conductive insulating tape with a breakdown voltage up to 2~7 KV and a thermal conductivity of 0.9~3.5 W/m*K. The viscosity and strength of the thermal tape will increase when temperature rise. Customized die-cut and shape molding are all available which can meet the special needs of customers in the face of today’s advanced products.

ST6000-S

UL Flammability Thermal Conductive Tape

LiPOLY ST6000-S is a thermally conductive tape with UL high temperature heat resistance. The thermal conductivity is 1.8 W/m*K. The stickiness and strength of the thermal tape will increase when temperatures and pressure rise. They are designed to securely bond heat sinks to power dissipating components without an additional clamping mechanism.

FEATURES

/ Thermal conductivity:1.8 W/m*K
/ High temperature stability
/ Easy to assemble

TYPICAL APPLICATION

/ Power supplies
/ Motor controls
/ Power semiconductors
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	ST6000-S	TEST METHOD	UNIT
Color	White	Visual	-
Resin base	Silicone	-	-
Reinforced layer	None	-	-
Thickness	0.2	ASTM D374	mm
Density	2.3	ASTM D792	g/cm^3
Application temperature	-60~180	-	°C
Short time temp. @30sec	288	-	°C
ROHS	Compliant	-	-
ADHESION			
Lap shear strength	35	ASTM D1002	N/cm^2
Die shear strength@25°C	50	-	N/cm^2
Die shear strength@80°C	50	-	N/cm^2
Holding power 1kg @25°C	>10000	PSTC-7	min
Holding power 1kg @80°C	>10000	PSTC-7	min
90° Peeling strength @ 25°C, 72 hrs	>8	ASTM D3330	N/inch
90° Peeling strength @ Thermal aging	>7	80°C 1000 hrs	N/inch
90° Peeling strength @ HAST	>10	85°C/85%RH 1000 hrs	N/inch
90° Peeling strength @ Thermal cycling	>9.5	-40°C~120°C 500 cycles	N/inch
ELECTRICAL			
Dielectric breakdown	3.5	ASTM D149	KV
Surface resistivity	$>10^9$	ASTM D257	Ohm
Volume resistivity	$>10^9$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	1.8	ASTM D5470	W/m*K
Thermal impedance@5psi	0.81	ASTM D5470	°C-in^2/ W
Thermal impedance@10psi	0.72	ASTM D5470	°C-in^2/ W
Thermal impedance@15psi	0.65	ASTM D5470	°C-in^2/ W

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

ST6000F

High Temperature Thermal Conductive Tape

LiPOLY ST6000F is a thermally conductive tape with high-temperature heat resistance. The thermal conductivity is 1.2 W/m*K. The stickiness and strength of the thermal tape will increase when temperatures and pressure rise. They are designed to securely bond heat sinks to power dissipating components without an additional clamping mechanism.

FEATURES

/ Thermal conductivity:1.2 W/m*K
/ High temperature stability
/ Easy to assemble

TYPICAL APPLICATION

/ Power supplies
/ Motor controls
/ Power semiconductors
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	ST6000F		TEST METHOD	UNIT
Color	White		Visual	-
Resin base	Silicone		-	-
Reinforced layer	Fiberglass		-	-
Thickness	0.15	0.25	ASTM D374	mm
Density	1.6	1.6	ASTM D792	g/cm^3
Application temperature	-60~180	-60~180	-	°C
Short time temp. @30sec	288	288	-	°C
ROHS	Compliant	Compliant	-	-
ADHESION				
Lap shear strength	74	76	ASTM D1002	N/cm^2
Die shear strength@25°C	113	126	-	N/cm^2
Die shear strength@80°C	80	85	-	N/cm^2
Holding power 1kg @25°C	>10000	>10000	PSTC-7	min
Holding power 1kg @80°C	>10000	>10000	PSTC-7	min
90° Peeling strength @ 25°C, 72 hrs	>11	>12	ASTM D3330	N/inch
90° Peeling strength @ Thermal aging	>7	>10	80°C 1000 hrs	N/inch
90° Peeling strength @ HAST	>7	>13	85°C/85%RH 1000 hrs	N/inch
90° Peeling strength @ Thermal cycling	>7	>10	-40°C~120°C 500 cycles	N/inch
ELECTRICAL				
Dielectric breakdown	3	4	ASTM D149	KV
Surface resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{12}$	$>10^{12}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity	1.2	1.2	ASTM D5470	W/m*K
Thermal impedance@5psi	0.78	1.24	ASTM D5470	°C-in^2/ W
Thermal impedance@10psi	0.71	1.16	ASTM D5470	°C-in^2/ W
Thermal impedance@15psi	0.64	1.14	ASTM D5470	°C-in^2/ W

AT910

UL Flammability Thermal Conductive Tape

LiPOLY AT910 is a fiberglass reinforced thermally conductive tape with UL high temperature heat resistance. The thermal conductivity is 1.0 W/m*K. The stickiness and strength of the thermal tape will increase when temperatures and pressure rise. They are designed to securely bond heat sinks to power dissipating components without an additional clamping mechanism.

FEATURES

/ Thermal conductivity:1.0 W/m*K
/ Excellent adhesive properties
/ Designed for manufacture
/ Excellent long term reliability
/ Fiberglass reinforced layer

TYPICAL APPLICATION

/ Automotive electronics
/ Telecommunications
/ LED light bar & LED lamp
/ Between any heat-generating component and heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	AT910		TEST METHOD	UNIT
Color	White		Visual	-
Resin base	Acrylic		-	-
Reinforced layer	Fiberglass		-	-
Thickness	0.15	0.25	ASTM D374	mm
Density	1.8	1.8	ASTM D792	g/cm^3
Application temperature	-60~120	-60~120	-	°C
Short time temp. @15min	200	200	-	°C
ROHS	Compliant	Compliant	-	-
ADHESION				
Initial tack	11	8	PSTC-6	cm
Lap shear strength	50	50	ASTM D1002	N/cm^2
Die shear strength@25°C	100	100	-	N/cm^2
Die shear strength@80°C	70	70	-	N/cm^2
Holding power 1kg @25°C	>10000	>10000	PSTC-7	min
Holding power 1kg @80°C	>10000	>10000	PSTC-7	min
90° Peeling strength @ 25°C, 72 hrs	>5	>6	ASTM D3330	N/inch
90° Peeling strength @ Thermal aging	>14	>20	80°C 1000 hrs	N/inch
90° Peeling strength @ HAST	>20	>24	85°C/85%RH 1000 hrs	N/inch
90° Peeling strength @ Thermal cycling	>27	>28	-40°C~120°C 500 cycles	N/inch
ELECTRICAL				
Dielectric breakdown	2	3	ASTM D149	KV
Surface resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity	1.0	1.0	ASTM D5470	W/m*K
Thermal impedance@5psi	0.81	1.06	ASTM D5470	°C-in^2/ W
Thermal impedance@10psi	0.78	1.03	ASTM D5470	°C-in^2/ W
Thermal impedance@15psi	0.76	1.01	ASTM D5470	°C-in^2/ W

AT900A

Insulated Thermal Conductive Tape

LiPOLY AT900A is a thermally conductive tape. With a fiberglass reinforced layer and a thermal conductivity of 0.9 W/m*K this product is designed for applications where additional durability is needed. AT900A can be provided in either standard sheets or custom-die cuts.

FEATURES

/ Thermal conductivity:0.9 W/m*K
/ Excellent adhesive properties
/ Designed for manufacture
/ Excellent long term reliability
/ Fiberglass reinforced layer

TYPICAL APPLICATION

/ Automotive electronics
/ Telecommunications
/ LED light bar & LED lamp
/ Between any heat-generating component and heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	AT900A		TEST METHOD	UNIT
Color	White		Visual	-
Resin base	Acrylic		-	-
Reinforced layer	Fiberglass		-	-
Thickness	0.15	0.25	ASTM D374	mm
Density	1.6	1.6	ASTM D792	g/cm^3
Application temperature	-60~120	-60~120	-	°C
Short time temp. @15min	200	200	-	°C
ROHS	Compliant	Compliant	-	-
ADHESION				
Initial tack	10	8	PSTC-6	cm
Lap shear strength	60	60	ASTM D1002	N/cm^2
Die shear strength@25°C	107	94	-	N/cm^2
Die shear strength@80°C	70	70	-	N/cm^2
Holding power 1kg @25°C	>10000	>10000	PSTC-7	min
Holding power 1kg @80°C	>10000	>10000	PSTC-7	min
90° Peeling strength @ 25°C, 72 hrs	>10	>12	ASTM D3330	N/inch
90° Peeling strength @ Thermal aging	>14	>20	80°C 1000 hrs	N/inch
90° Peeling strength @ HAST	>20	>25	85°C/85%RH 1000 hrs	N/inch
90° Peeling strength @ Thermal cycling	>15	>20	-40°C~120°C 500 cycles	N/inch
ELECTRICAL				
Dielectric breakdown	2	3	ASTM D149	KV
Surface resistivity	$>10^{10}$	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	$>10^{10}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity	0.9	0.9	ASTM D5470	W/m*K
Thermal impedance@5psi	0.87	1.15	ASTM D5470	°C-in^2/ W
Thermal impedance@10psi	0.85	1.14	ASTM D5470	°C-in^2/ W
Thermal impedance@15psi	0.82	1.12	ASTM D5470	°C-in^2/ W

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

AT900C

Insulated Thermal Conductive Tape

LiPOLY AT900C is a thermally conductive tape. With a fiberglass reinforced layer and a thermal conductivity of 1.2 W/m*K this product is designed for applications where additional durability is needed. AT900C can be provided in either standard sheets or custom-die cuts.

FEATURES

/ Thermal conductivity:1.2 W/m*K
/ Excellent adhesive properties
/ Designed for manufacture
/ Excellent long term reliability
/ Fiberglass reinforced layer

TYPICAL APPLICATION

/ Automotive electronics
/ Telecommunications
/ LED light bar & LED lamp
/ Between any heat-generating component and heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	AT900C		TEST METHOD	UNIT
Color	White		Visual	-
Resin base	Acrylic		-	-
Reinforced layer	Fiberglass		-	-
Thickness	0.15	0.25	ASTM D374	mm
Density	1.7	1.7	ASTM D792	g/cm³
Application temperature	-60~120	-60~120	-	°C
Short time temp. @15min	200	200	-	°C
ROHS	Compliant	Compliant	-	-
ADHESION				
Initial tack	14	12	PSTC-6	cm
Lap shear strength	55	60	ASTM D1002	N/cm²
Die shear strength@25°C	100	100	-	N/cm²
Die shear strength@80°C	65	65	-	N/cm²
Holding power 1kg @25°C	>10000	>10000	PSTC-7	min
Holding power 1kg @80°C	>10000	>10000	PSTC-7	min
90° Peeling strength @ 25°C, 72 hrs	>6	>8	ASTM D3330	N/inch
90° Peeling strength @ Thermal aging	>10	>15	80°C 1000 hrs	N/inch
90° Peeling strength @ HAST	>18	>22	85°C/85%RH 1000 hrs	N/inch
90° Peeling strength @ Thermal cycling	>13	>19	-40°C~120°C 500 cycles	N/inch
ELECTRICAL				
Dielectric breakdown	3	4	ASTM D149	KV
Surface resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity	1.2	1.2	ASTM D5470	W/m*K
Thermal impedance@5psi	0.72	0.98	ASTM D5470	°C-in²/ W
Thermal impedance@10psi	0.68	0.94	ASTM D5470	°C-in²/ W
Thermal impedance@15psi	0.66	0.92	ASTM D5470	°C-in²/ W

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

AT920-s

Insulated Thermal Conductive Tape

LiPOLY AT920-s is an unsupported thermally conductive tape with a thermal conductivity of 3.5 W/m*K. The thickness can be 0.50 ~ 3.0 mm, and the AT920-s can withstand 7~10 KV. Using highly thermal conductive particles makes the tape extremely reliable and easy to use. The stickiness and strength will increase when temperature and pressure rise.

FEATURES

/ Thermal conductivity:3.5 W/m*K
/ Excellent adhesive properties
/ Designed for manufacture
/ Excellent long term reliability

TYPICAL APPLICATION

/ Automotive electronics
/ Telecommunications
/ LED light bar & LED lamp
/ Between any heat-generating component and heat sink
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	AT920-s	TEST METHOD	UNIT
Color	White	Visual	-
Resin base	Acrylic	-	-
Reinforced layer	None	-	-
Thickness	0.50~3.0	ASTM D374	mm
Density	2.6	ASTM D792	g/cm^3
Application temperature	-60~120	-	°C
Short time temp. @15min	200	-	°C
ROHS	Compliant	-	-
ADHESION@0.5mm			
Initial tack	8	PSTC-6	cm
Lap shear strength	35	ASTM D1002	N/cm^2
Die shear strength@25°C	85	-	N/cm^2
Die shear strength@80°C	40	-	N/cm^2
Holding power 1kg@25°C	>10000	PSTC-7	min
Holding power 1kg@80°C	>10000	PSTC-7	min
90° Peeling strength@ 25°C, 72 hrs	>9	ASTM D3330	N/inch
90° Peeling strength@ Thermal aging	>13	80°C 1000 hrs	N/inch
90° Peeling strength@ HAST	>22	85°C/85%RH 1000 hrs	N/inch
90° Peeling strength@ Thermal cycling	>13	-40°C~120°C 500 cycles	N/inch
ELECTRICAL@0.5mm			
Dielectric breakdown	7	ASTM D149	KV
Surface resistivity	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{12}$	ASTM D257	Ohm-m
THERMAL@0.5mm			
Thermal conductivity	3.5	ASTM D5470	W/m*K
Thermal impedance@5psi	0.54	ASTM D5470	°C-in^2/ W
Thermal impedance@10psi	0.53	ASTM D5470	°C-in^2/ W
Thermal impedance@15psi	0.50	ASTM D5470	°C-in^2/ W

Insulated Thermal Conductive Series

High Insulated Thermal Conductive Film

High Insulated Thermal Conductive Film
PR27 / PR28-s

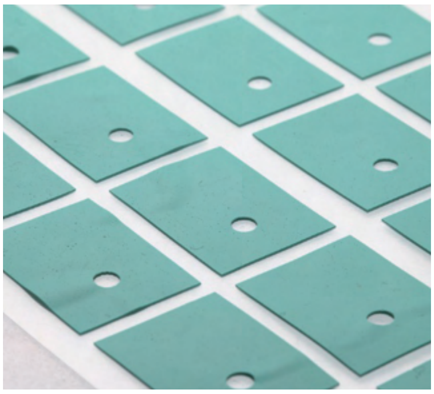
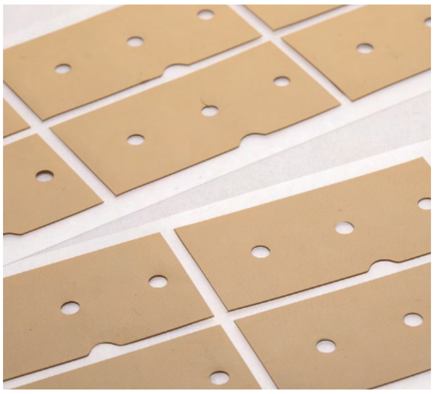
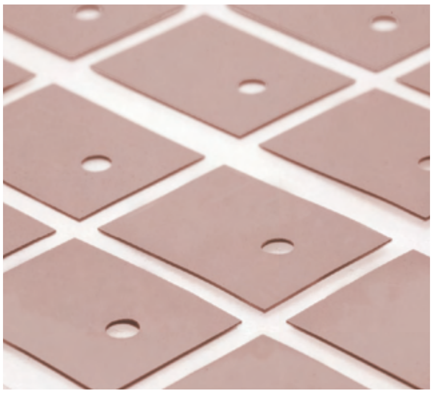
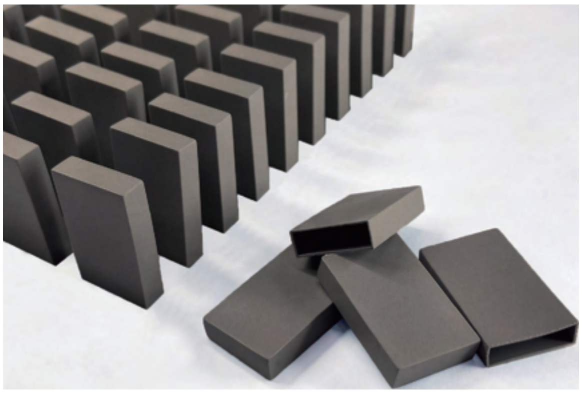
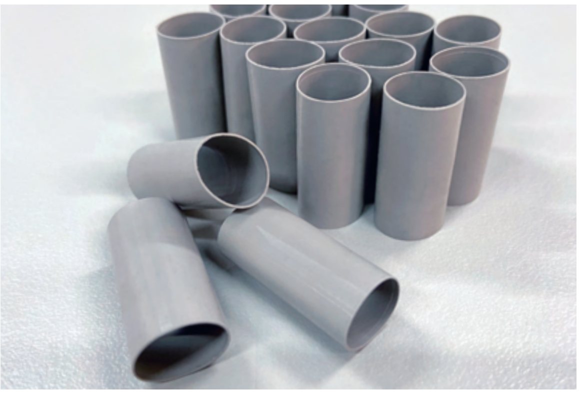
PR series are high-insulating materials with a thickness of 0.10~0.15 mm, breakdown voltage up to 8~12 KV, excellent tensile strength and high-torque screw locking, suitable for high-power electronic component. The feature of high stability can be the best choice for electrical equipment. Customized die-cut and shape molding are all available.

High Insulated Thermal Conductive Pad
SH1500 / SH2000 / SH3000 / DCTP140-s

SH and DCTP series are thermally conductive insulating materials that use fiberglass cloth as a reinforcing substrate combined with thermally conductive silicone. This gives them high thermal conductivity and excellent compressive strength. With a thermal conductivity of 1.5 to 4.5 W/m*K and a thickness range of 0.15 to 0.45 mm, these materials offer high electrical insulation. The fiberglass reinforcement enhances structural strength, providing excellent cut resistance, making them an ideal choice for high-torque screw assembly.

Thermal Conductive Rubber Cap/Tube
SP-23 / HC-93 / TP200

SP, HC, TP series is a stereoscopic thermal conductive silicone rubber cap and tube through a special production process. Due to its excellent characteristic of high thermal conductivity, insulation, shock-proof and convenient assembly, it is widely used in heat transistor refer to TO220 / TO3P, diode, triode.

PR27

High Insulated Thermal Conductive Film

LiPOLY PR27 is a very thin, high insulator with a thickness of 0.10~0.15mm. It uses Polyimide Film as the reinforcement material, which can increase the tensile strength. It's suitable for high power transistors, electrical equipment, and will be the best choice for auto-distribution systems.

FEATURES

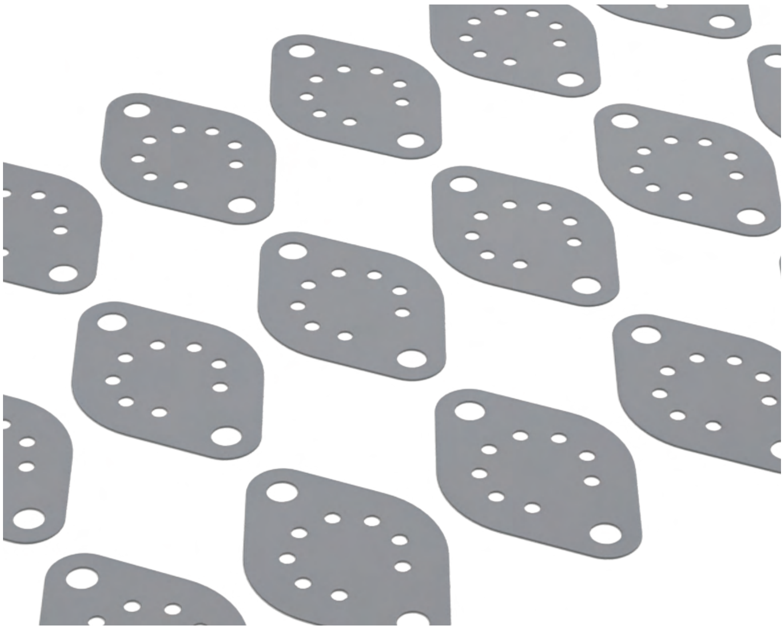
/ Thermal conductivity:1.8 W/m*K
/ Good insulator
/ Low thermal impedance
/ Reworkable
/ High performance

TYPICAL APPLICATION

/ Power supplies
/ Motor controls
/ Power semiconductors
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts
/ Single-sided adhesive or double-sided adhesive can be used as required



TYPICAL PROPERTIES

PROPERTY	PR27	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	0	-	-
Reinforced layer	Polyimide	-	-
Thickness	0.10 / 0.125 / 0.15	ASTM D374	mm
Density	1.5	ASTM D792	g/cm^3
Hardness	80	ASTM D2240	Shore A
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
ELECTRICAL@0.15mm			
Dielectric breakdown	12	ASTM D149	KV
Surface resistivity	$>10^{13}$	ASTM D257	Ohm
Volume resistivity	$>10^{12}$	ASTM D257	Ohm-m
THERMAL@0.15mm			
Thermal conductivity	1.8	ASTM D5470	W/m*K
Thermal impedance@20psi	0.441	ASTM D5470	°C-in^2/ W
Thermal impedance@60psi	0.360	ASTM D5470	°C-in^2/ W
Thermal impedance@100psi	0.329	ASTM D5470	°C-in^2/ W

PR28-s

High Insulated Thermal Conductive Film

LiPOLY PR28-s is a very thin, high insulator with a thickness of 0.10~0.15mm. It uses Polyimide Film as the reinforcement material, which can increase the tensile strength. It's suitable for high power transistors, electrical equipment, and will be the best choice for auto-distribution systems.

FEATURES

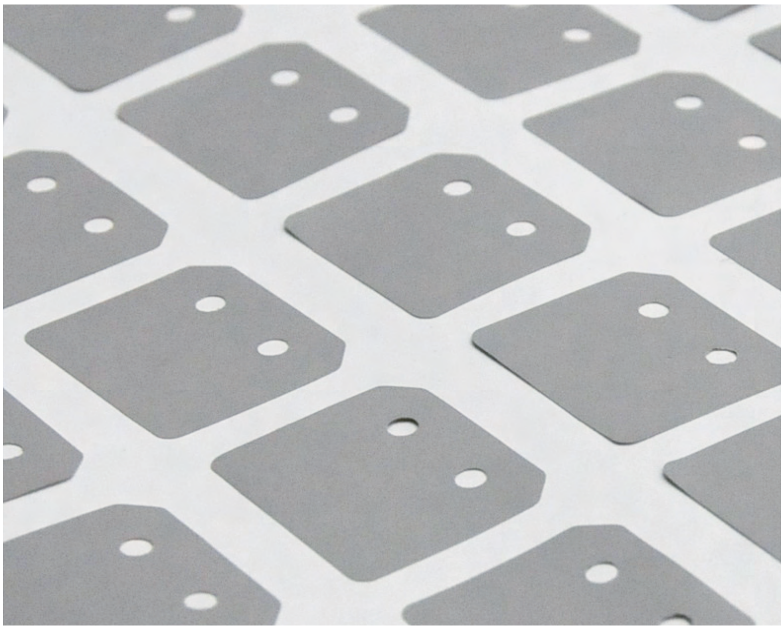
/ Thermal conductivity:2.5 W/m*K
/ Good insulator
/ Low thermal impedance
/ Reworkable
/ High performance

TYPICAL APPLICATION

/ Power supplies
/ Motor controls
/ Power semiconductors
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts
/ Single-sided adhesive or double-sided adhesive can be used as required



TYPICAL PROPERTIES

PROPERTY	PR28-s	TEST METHOD	UNIT
Color	Gray	Visual	-
Surface tack 2-side/1-side	0	-	-
Reinforced layer	Polyimide	-	-
Thickness	0.10 / 0.125 / 0.15	ASTM D374	mm
Density	1.5	ASTM D792	g/cm³
Hardness	80	ASTM D2240	Shore A
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
ELECTRICAL@0.15mm			
Dielectric breakdown	8	ASTM D149	KV
Surface resistivity	$>10^{13}$	ASTM D257	Ohm
Volume resistivity	$>10^{12}$	ASTM D257	Ohm-m
THERMAL@0.15mm			
Thermal conductivity	2.5	ASTM D5470	W/m*K
Thermal impedance@20psi	0.342	ASTM D5470	°C-in²/ W
Thermal impedance@60psi	0.269	ASTM D5470	°C-in²/ W
Thermal impedance@100psi	0.235	ASTM D5470	°C-in²/ W

SHIU LI TECHNOLOGY CO.,LTD

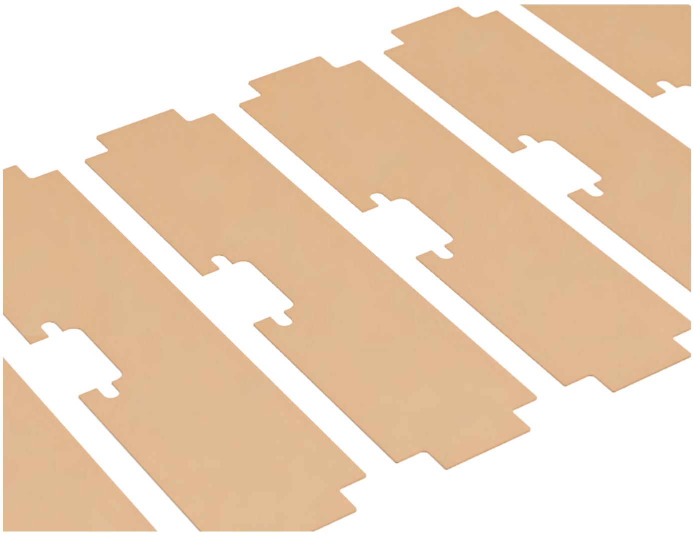
SH1500/2000/3000

High Insulated Thermal Conductive Pad

LiPOLY SH1500/2000/3000 is a thermal insulator uses fiberglass cloth as a reinforcement material, combined with thermal conductive silicon, giving it high thermal conduction and great compression strength. The thermal conductivity is 1.5/2.0/3.0 W/m*K, the thickness is 0.15~0.45mm. Its high insulation and fiberglass materials increase the strength of its structure making it cut resistant. SH1500/2000/3000 is the best choice for high torque screw setting. It functions well with electrical isolative of high power electronic component and the heat sink.

FEATURES

/ Thermal conductivity:1.5/2.0/3.0 W/m*K
/ Excellent insulator
/ Reworkable
/ Fiberglass reinforced



TYPICAL APPLICATION

/ Power supplies
/ Motor controls
/ EV electric vehicle
/ Automotive electronics
/ 5G base station & infrastructure

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	SH1500		SH2000		SH3000			TEST METHOD (UNIT)
Color	Yellow		Green		Pink			Visual
Surface tack 2-side/1-side	2		2		2			-
Reinforced layer	Fiberglass		Fiberglass		Fiberglass			-
Thickness	0.15	0.20	0.25	0.30	0.25	0.30	0.45	ASTM D374 (mm)
Density	2.3	2.3	2.6	2.6	2.8	2.8	2.8	ASTM D792 (g/cm^3)
Hardness	80	80	80	80	80	80	80	ASTM D2240 (Shore A)
Application temperature	-60~180	-60~180	-60~180	-60~180	-60~180	-60~180	-60~180	- (°C)
ROHS	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant	-
ELECTRICAL								
Dielectric breakdown	7	7	9	10	7	9	12	ASTM D149 (KV)
Surface resistivity	>10^{12}	>10^{12}	>10^{12}	>10^{12}	>10^{12}	>10^{12}	>10^{12}	ASTM D257 (Ohm)
Volume resistivity	>10^{12}	>10^{12}	>10^{12}	>10^{12}	>10^{12}	>10^{12}	>10^{12}	ASTM D257 (Ohm-m)
THERMAL								
Thermal conductivity	1.5	1.5	2.0	2.0	3.0	3.0	3.0	ASTM D5470 (W/m*K)
Thermal impedance@20 psi	0.49	0.52	0.45	0.53	0.41	0.48	0.56	ASTM D5470 (°C-in^2/ W)
Thermal impedance@60 psi	0.29	0.31	0.32	0.38	0.28	0.33	0.40	ASTM D5470 (°C-in^2/ W)
Thermal impedance@100 psi	0.26	0.28	0.30	0.36	0.25	0.30	0.38	ASTM D5470 (°C-in^2/ W)

DCTP140-s

High Insulated Thermal Conductive Pad

LiPOLY DCTP140-s is a thermal insulator uses fiberglass cloth as a reinforcement material, combined with thermal conductive silicon, giving it high thermal conduction and great compression strength. The thermal conductivity is 4.5 W/m*K, the thickness is 0.25~0.45mm. Its high insulation and fiberglass materials increase the strength of its structure making it cut resistant. DCTP140-s is the best choice for high torque screw setting. It functions well with electrical isolative of high power electronic component and the heat sink.

FEATURES

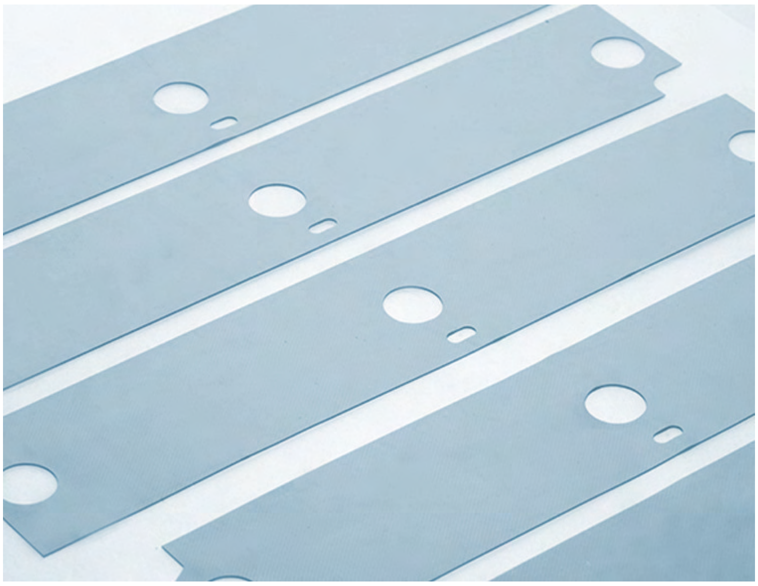
/ Thermal conductivity:4.5 W/m*K
/ Excellent insulator
/ Re-workable
/ Fiberglass reinforced

TYPICAL APPLICATION

/ Power supplies
/ Motor controls
/ EV electric vehicle
/ Automotive electronics
/ 5G base station & infrastructure

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	DCTP140-s			TEST METHOD	UNIT
Color	Blue			Visual	-
Surface tack 2-side/1-side	2			-	-
Reinforced layer	Fiberglass			-	-
Thickness	0.25	0.30	0.45	ASTM D374	mm
Density	2.8	2.8	2.8	ASTM D792	g/cm^3
Hardness	80	80	80	ASTM D2240	Shore A
Application temperature	-60~180	-60~180	-60~180	-	°C
ROHS	Compliant	Compliant	Compliant	-	-
ELECTRICAL					
Dielectric breakdown	6	8	11	ASTM D149	KV
Surface resistivity	>10^{12}	>10^{12}	>10^{12}	ASTM D257	Ohm
Volume resistivity	>10^{10}	>10^{10}	>10^{10}	ASTM D257	Ohm-m
THERMAL					
Thermal conductivity	4.5	4.5	4.5	ASTM D5470	W/m*K
Thermal impedance@20psi	0.357	0.408	0.456	ASTM D5470	°C-in^2/ W
Thermal impedance@60psi	0.223	0.260	0.316	ASTM D5470	°C-in^2/ W
Thermal impedance@100psi	0.207	0.221	0.265	ASTM D5470	°C-in^2/ W

SP-23

Thermal Conductive Rubber Cap

LiPOLY SP-23 is a stereoscopic thermal conductive silicone rubber cap as substrate through a special production process. Due to its excellent characteristic of high thermal conductivity, insulation, shock-proof and convenient assembly, it is widely used in heat transistor refer to TO220 / TO3P, diode, triode.

FEATURES

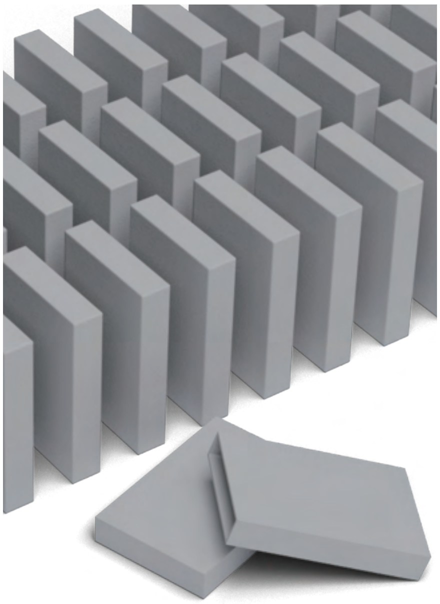
/ Thermal conductivity: 0.8 W/m*K
/ Good insulator
/ High recovery
/ Easy to assemble
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Notebook computers
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

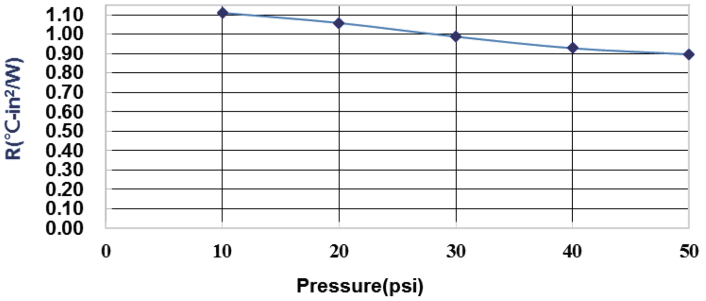
/ 11.4mm x 16.0mm x 5.8mm
/ 11.4mm x 21.5mm x 5.8mm
/ 17.5mm x 28.5mm x 5.8mm



TYPICAL PROPERTIES

PROPERTY	SP-23	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Silicone	-	-
Thickness	0.30 / 0.45	ASTM D374	mm
Density	1.8	ASTM D792	g/cm^3
Hardness	55	ASTM D2240	Shore A
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	1	ASTM D5470 modify	%
Deflection @20 psi	2	ASTM D5470 modify	%
Deflection @30 psi	3	ASTM D5470 modify	%
Deflection @40 psi	4	ASTM D5470 modify	%
Deflection @50 psi	5	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	7 / 8	ASTM D149	KV
Surface resistivity	$>10^{12}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL@0.3mm			
Thermal conductivity	0.8	ASTM D5470	W/m*K
Thermal impedance@10 psi	1.110	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	1.058	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.988	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.929	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.897	ASTM D5470	°C-in^2/ W

Thermal Resistance vs. Pressure



HC-93

Thermal Conductive Rubber Cap

LiPOLY HC-93 is a stereoscopic thermal conductive silicone rubber cap as substrate through a special production process. Due to its excellent characteristic of high thermal conductivity, insulation, shock-proof and convenient assembly, it is widely used in heat transistor refer to TO220 / TO3P, diode, triode.

FEATURES

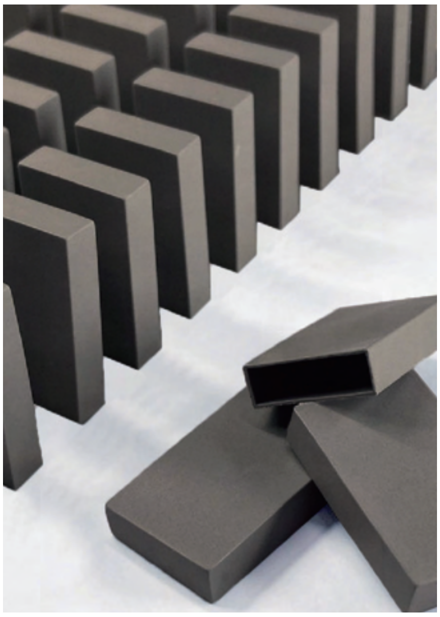
/ Thermal conductivity: 2.5 W/m*K
/ Good insulator
/ High recovery
/ Easy to assemble
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Notebook computers
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS (LxWxH)

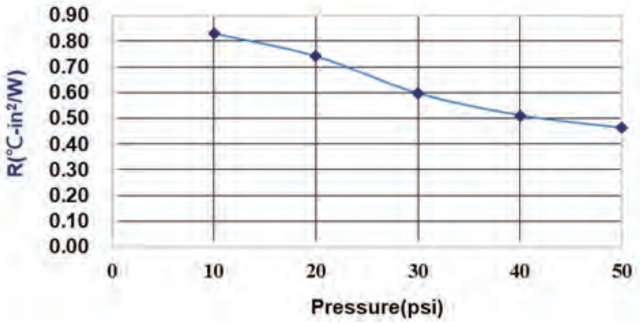
/ 11.4mm x 16.0mm x 5.8mm
/ 11.4mm x 21.5mm x 5.8mm
/ 17.5mm x 28.5mm x 5.8mm



TYPICAL PROPERTIES

PROPERTY	HC-93	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Silicone	-	-
Thickness	0.30 / 0.45	ASTM D374	mm
Density	2.3	ASTM D792	g/cm^3
Hardness	65	ASTM D2240	Shore A
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	1	ASTM D5470 modify	%
Deflection @20 psi	2	ASTM D5470 modify	%
Deflection @30 psi	4	ASTM D5470 modify	%
Deflection @40 psi	5	ASTM D5470 modify	%
Deflection @50 psi	6	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	7 / 8	ASTM D149	KV
Surface resistivity	$>10^{12}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL			
Thermal Conductivity	2.5	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.830	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.741	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.597	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.511	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.462	ASTM D5470	°C-in^2/ W

Thermal Resistance vs. Pressure



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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

TP200

Thermal Conductive Rubber Tube

LiPOLY TP200 is a stereoscopic thermal conductive silicone rubber cap as substrate through a special production process. Due to its excellent characteristic of high thermal conductivity, insulation, shock-proof and convenient assembly, it is widely used in heat transistor refer to TO220 / TO3P, diode, triode.

FEATURES

/ Thermal conductivity: 0.8 W/m*K
/ Good insulator
/ High recovery
/ Easy to assemble
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Between CPU and heat sink
/ Between a component and heat sink
/ Notebook computers
/ Power supplies
/ High speed mass storage drives
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

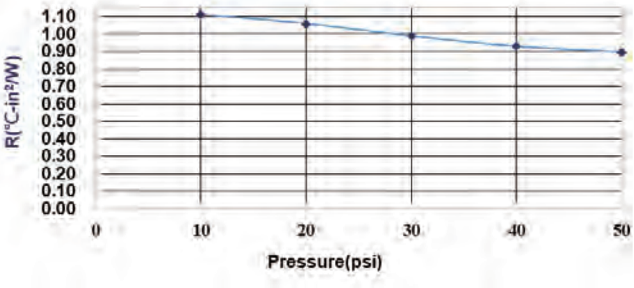
SPECIFICATIONS (Dia. x L)

/ 11.0mm x 25.0mm
/ 13.5mm x 25.0mm
/ 11.0mm x 30.0mm
/ 13.5mm x 30.0mm

TYPICAL PROPERTIES

PROPERTY	TP200	TEST METHOD	UNIT
Color	Gray	Visual	-
Resin base	Silicone	-	-
Thickness	0.3	ASTM D374	mm
Density	1.8	ASTM D792	g/cm^3
Hardness	55	ASTM D2240	Shore A
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	1	ASTM D5470 modify	%
Deflection @20 psi	2	ASTM D5470 modify	%
Deflection @30 psi	3	ASTM D5470 modify	%
Deflection @40 psi	4	ASTM D5470 modify	%
Deflection @50 psi	5	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	7	ASTM D149	KV
Surface resistivity	$>10^{12}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
THERMAL@0.3mm			
Thermal conductivity	0.8	ASTM D5470	W/m*K
Thermal impedance@10 psi	1.110	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	1.058	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.988	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.929	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.897	ASTM D5470	°C-in^2/ W

Thermal Resistance vs. Pressure



Lightweight Thermal Conductive Series

Silicone Lightweight Thermal Conductive Products

Lightweight Thermal Conductive Gel Pad
DTT44-s / DTT65-s

DTT44-s/DTT65-s series is a low-density thermal pad. Low density and lightweight properties can improve the performance of products, reduce production costs, reduce material use and energy consumption, etc., and are often used in electronic products and automotive electronic equipment. The thermal conductivity of the product is 3.0~5.0 W/m*K. The characteristics are specially designed for network communication signal transmission. It focuses on D_k and D_f to reduce interference in the radio frequency module. The hardness Shore OO/50~55 has flexibility, compressibility, and insulation, has good self-adhesiveness, can fill the positive and negative tolerances of the mechanism design, shows high stability, and can be customized for cutting and punching.

Lightweight Thermal Conductive Putty
DTT04-s / DTT06-s / DTT10-s

DTT series is a low-density gap filler material suitable for electronic products and automotive electronic equipment. Its low density and lightweight properties improve product performance, reduce production costs, and reduce material use and energy consumption. The product has a thermal conductivity of 4.0~10.0 W/m*K, has high deformation, can flexibly adapt to gaps, and has tolerance compensation characteristics. It can overcome the problem of overflow and dryness, improve heat conduction,and is suitable for automated dispensing production.

Lightweight Thermal Conductive Sealing Glue
TPS31 / TPS32

TPS series is a low-density two-component potting material. The low-density and lightweight characteristics can improve the performance of the product, reduce production costs, and reduce the use of materials and energy consumption. It is often used in electronic products and automotive electronic equipment. The product has a thermal conductivity of 0.55~1.50 W/m*K and can be cured at room temperature or high temperature. It is a liquid-fluid thermal conductive adhesive that can fill the gaps in the air space around electronic devices. After curing, it maintains close contact with the heat-generating electronic components and radiators, allowing electronic products to operate at high power for heat conduction.

Non-Silicone Lightweight Thermal Conductive Products

Non-Silicone Lightweight Thermal Conductive Putty
NL-putty04 / NL-putty06 / NL-putty10

NL-putty series is a non-silicone, low-density gap filling material without volatile low-molecular-weight siloxane volatile, low total volatile gas. It is suitable for electronic products and automotive electronic devices.Its low density and lightweight characteristics improve product performance, reduce production costs, and minimize material usage and energy consumption. With a thermal conductivity of 4.0~10.0 W/m*K and high deformability,it can flexibly adapt to gap and has tolerance compensation properties. It can overcome overflow and drying problems, improve heat conduction, and is suitable for automated dispensing production.
What is Low-molecular-weight siloxane?
The chemical formula indicates that the non-reactive cyclic polydimethylsiloxane $\mathrm{Ho\text{-}[Si(CH_3)_2O]n\text{-}H}$ is volatile and volatilizes at any time. For example, when electronic products are in a closed space, the low volatile siloxane will cause obstacles to electrical contacts.

DTT44-s

Lightweight Thermal Conductive Gel Pad

LiPOLY DTT44-s is a soft thermally conductive gel pad specifically designed for network ing commu- nication applications.DTT44-s is designed to focus on D_k and D_f to reduce interference in RF modules. DTT44-s has a thermal conductivity of 3.0 W/m*K. This product can be supplied as stan dard sheets, custom die-cuts or custom molded parts making it suitable for a wide range of appli- cations.

TYPICAL PROPERTIES

PROPERTY	DTT44-s	TEST METHOD	UNIT
Color	Blue	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.2	ASTM D792	g/cm^3
Hardness	50	ASTM D2240	Shore OO
Water absorption	0.02	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	13	ASTM D5470 modify	%
Deflection @20 psi	16	ASTM D5470 modify	%
Deflection @30 psi	20	ASTM D5470 modify	%
Deflection @40 psi	23	ASTM D5470 modify	%
Deflection @50 psi	26	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	11	ASTM D149	KV/mm
Surface resistivity	$>10^{10}$	ASTM D257	Ohm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
Dielectric constant@2GHz D_k	4.115	ASTM D150	-
Dielectric constant@6GHz D_k	4.214	ASTM D150	-
Dielectric constant@10GHz D_k	3.983	ASTM D150	-
Dissipation factor@2GHz D_f	0.00486	ASTM D150	-
Dissipation factor@6GHz D_f	0.00704	ASTM D150	-
Dissipation factor@10GHz D_f	0.00940	ASTM D150	-
THERMAL			
Thermal conductivity	3.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.652	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.630	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.591	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.574	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.562	ASTM D5470	°C-in^2/ W

FEATURES

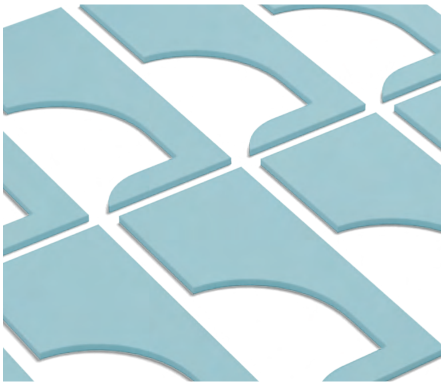
/ Lightweight, Low Density
Thermal conductivity: 3.0 W/m*K
/ Hardness: Shore OO/50
/ Low dielectric constant
/ For high frequency applications
/ Available in a range of thicknesses

TYPICAL APPLICATION

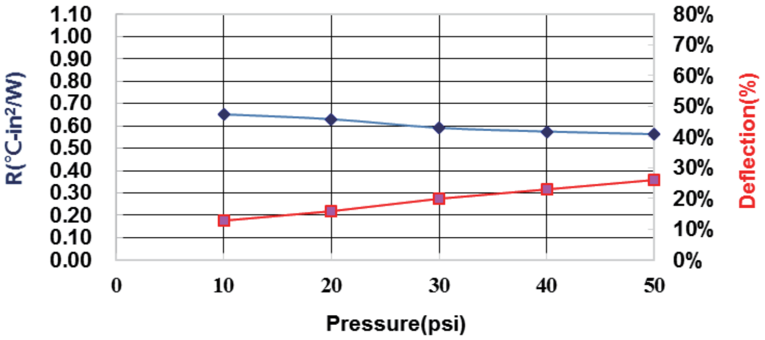
/ Communications satellite
/ Satellite positioning devices
/ IoT devices
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

/ Sheet form
/ Die-cut parts



Thermal Impedance vs. Pressure vs. Deflection



DTT65-s

Lightweight Thermal Conductive Gel Pad

LiPOLY DTT65-s is a soft thermally conductive gel pad specifically designed for networking communication applications.DTT65-s is designed to focus on D_k and D_f to reduce interference in RF modules. DTT65-s has a thermal conductivity of 5.0 W/m*K. This product can be supplied as standard sheets, custom die-cuts or custom molded parts making it suitable for a wide range of applications.

FEATURES

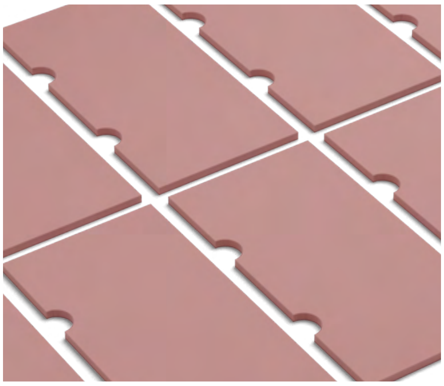
/ Lightweight, Low Density
Thermal conductivity: 5.0 W/m*K
/ Hardness: Shore 00/50
/ Low dielectric constant
/ For high frequency applications
/ Available in a range of thicknesses

TYPICAL APPLICATION

/ Communications satellite
/ Satellite positioning devices
/ IoT devices
/ Telecommunication hardware
/ 5G base station & infrastructure
/ EV electric vehicle

SPECIFICATIONS

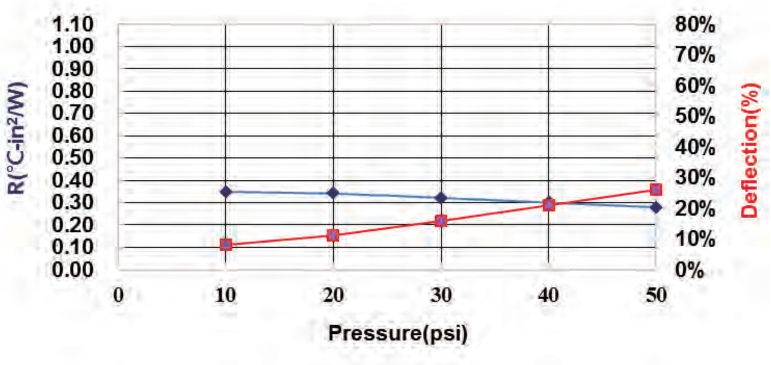
/ Sheet form
/ Die-cut parts



TYPICAL PROPERTIES

PROPERTY	DTT65-s	TEST METHOD	UNIT
Color	Red	Visual	-
Surface tack 2-side/1-side	2	-	-
Thickness	Customized	ASTM D374	mm
Density	2.1	ASTM D792	g/cm^3
Hardness	55	ASTM D2240	Shore OO
Water absorption	0.005	ASTM D570	%
Application temperature	-60~180	-	°C
ROHS & REACH	Compliant	-	-
COMPRESSION@1.0mm			
Deflection @10 psi	8	ASTM D5470 modify	%
Deflection @20 psi	11	ASTM D5470 modify	%
Deflection @30 psi	16	ASTM D5470 modify	%
Deflection @40 psi	21	ASTM D5470 modify	%
Deflection @50 psi	26	ASTM D5470 modify	%
ELECTRICAL			
Dielectric breakdown	10	ASTM D149	KV/mm
Surface resistivity	$>10^{12}$	ASTM D257	Ohm
Volume resistivity	$>10^{13}$	ASTM D257	Ohm-m
Dielectric constant@2GHz D_k	4.131	ASTM D150	-
Dielectric constant@6GHz D_k	4.058	ASTM D150	-
Dielectric constant@10GHz D_k	4.013	ASTM D150	-
Dissipation factor@2GHz D_f	0.00509	ASTM D150	-
Dissipation factor@6GHz D_f	0.00658	ASTM D150	-
Dissipation factor@10GHz D_f	0.00780	ASTM D150	-
THERMAL			
Thermal conductivity	5.0	ASTM D5470	W/m*K
Thermal impedance@10 psi	0.350	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	0.342	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	0.323	ASTM D5470	°C-in^2/ W
Thermal impedance@40 psi	0.302	ASTM D5470	°C-in^2/ W
Thermal impedance@50 psi	0.281	ASTM D5470	°C-in^2/ W

Thermal Impedance vs. Pressure vs. Deflection



DTT04-s

Lightweight Thermal Conductive Putty

LiPOLY's DTT04-s is a low-density gap filler material suitable for electronic products and automotive electronic equipment. Its low density and lightweight properties improve product performance, reduce production costs, and reduce material use and energy consumption. The product has a thermal conductivity of 4.0 W/m*K, has high deformation, can flexibly adapt to gaps, and has tolerance compensation characteristics. It can overcome the problem of overflow and dryness, improve heat conduction, and is suitable for automated dispensing production.

FEATURES

/ Lightweight, Low Density
Thermal Conductivity: 4.0 W/m*K
/ High flow rate, extrusion rate under 90psi & 60s conditions: 56g/min
/ Bond line thickness:100~1500μm
/ 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

/ lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft, Sports and leisure electronic products, Portable computers and tablets, wearable devices, Portable game consoles, VR devices and etc.

CONFIGURATIONS

/ Cartridges: 30ml, 150ml
/ Bucket: 1kg, 25kg

PRESERVATION

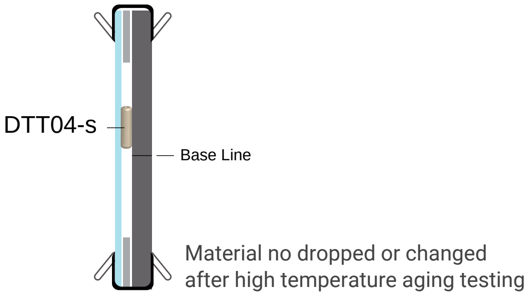
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	DTT04-s	TEST METHOD	UNIT
Color	Yellow	Visual	-
Resin base	Silicone	-	-
Viscosity	1000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube,2.35mm Orifice diameter,90psi&60s)	56	By LiPOLY	g/min
Density	2.3	ASTM D792	g/cm^3
Application temperature	-60~150	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	13	ASTM D149	KV/mm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	4.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.084	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 60°C	0.078	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 60°C	0.075	ASTM D5470	°C-in^2/ W

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

DTT06-s

Lightweight Thermal Conductive Putty

LiPOLY's DTT06-s is a low-density gap filler material suitable for electronic products and automotive electronic equipment. Its low density and lightweight properties improve product performance, reduce production costs, and reduce material use and energy consumption. The product has a thermal conductivity of 6.0 W/m*K, has high deformation, can flexibly adapt to gaps, and has tolerance compensation characteristics. It can overcome the problem of overflow and dryness, improve heat conduction, and is suitable for automated dispensing production.

FEATURES

/ Lightweight, Low Density
Thermal Conductivity: 6.0 W/m*K
/ High flow rate, extrusion rate under 90psi & 60s conditions: 59g/min
/ Bond line thickness:100~1500μm
/ 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

/ lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft, Sports and leisure electronic products, Portable computers and tablets, wearable devices, Portable game consoles, VR devices and etc.

CONFIGURATIONS

/ Cartridges: 30ml, 150ml
/ Bucket: 1kg, 25kg

PRESERVATION

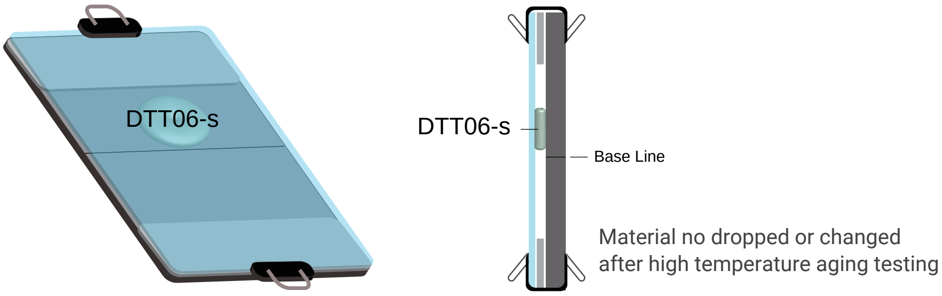
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	DTT06-s	TEST METHOD	UNIT
Color	Green	Visual	-
Resin base	Silicone	-	-
Viscosity	2200	DIN 53018	Pa.s
Flow Rate (30cc EFD tube,2.35mm Orifice diameter,90psi&60s)	59	By LiPOLY	g/min
Density	2.6	ASTM D792	g/cm^3
Application temperature	-60~150	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	13	ASTM D149	KV/mm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.057	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 60°C	0.052	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 60°C	0.048	ASTM D5470	°C-in^2/ W

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



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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

DTT10-s

Lightweight Thermal Conductive Putty

LiPOLY's DTT10-s is a low-density gap filler material suitable for electronic products and automotive electronic equipment. Its low density and lightweight properties improve product performance, reduce production costs, and reduce material use and energy consumption. The product has a thermal conductivity of 10.0 W/m*K, has high deformation, can flexibly adapt to gaps, and has tolerance compensation characteristics. It can overcome the problem of overflow and dryness, improve heat conduction, and is suitable for automated dispensing production.

FEATURES

/ Lightweight, Low Density
Thermal Conductivity: 10.0 W/m*K
/ High flow rate, extrusion rate under 90psi & 60s conditions: 55g/min
/ Bond line thickness:100~1500μm
/ 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

/ lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft, Sports and leisure electronic products, Portable computers and tablets, wearable devices, Portable game consoles, VR devices and etc.

CONFIGURATIONS

/ Cartridges: 30ml, 150ml
/ Bucket: 1kg, 25kg

PRESERVATION

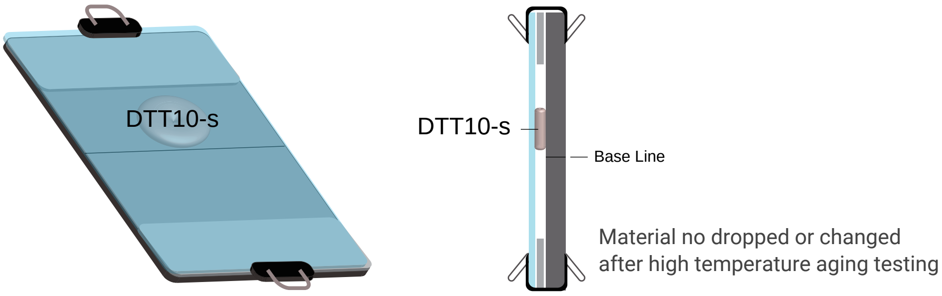
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	DTT10-s	TEST METHOD	UNIT
Color	Pink	Visual	-
Resin base	Silicone	-	-
Viscosity	5000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube,2.35mm Orifice diameter,90psi&60s)	55	By LiPOLY	g/min
Density	2.6	ASTM D792	g/cm³
Application temperature	-60~150	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	10	ASTM D149	KV/mm
Volume resistivity	$>10^{12}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	10.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 60°C	0.041	ASTM D5470	°C-in²/ W
Thermal impedance@30psi / 60°C	0.038	ASTM D5470	°C-in²/ W
Thermal impedance@50psi / 60°C	0.035	ASTM D5470	°C-in²/ W

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



TPS31&TPS32

Lightweight Two-Part Thermal Conductive Sealing Glue

LiPOLY’s TPS31/TPS32 is a low-density, two-part compound silicone base thermal conductive sealing material. It’s low viscosity and excellent fluidity can tightly fill the gaps of electrical components and cover the tolerances between components.   It has excellent thermal conductivity, low density and insulation properties.

FEATURES

/ Lightweight, Low Density, Thermal Conductivity 0.55 & 1.5 W/m*K
/ Medium-to-high hardness silicone material with excellent insulation and weather resistance
/ Suitable for automatic dispensing machine
/ TPS31 Moisture absorb hardening reaction at room temperature.
/ TPS32 Hardened at room temperature, also can be heated to accelerate the hardening reaction.

TYPICAL APPLICATION

/ Heat Dissipation & lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft, Sports and leisure electronic products, Portable game consoles, VR devices and etc.
/ 5G base station & infrastructure
/ EV electric vehicle

PRESERVATION

/ It can be preserved for 24 months under the condition of unopened and under room temperature 30°C.

PRECAUTIONS

/ TPS32 If the interface has organic compounds such as Nitrogen, Phosphorous, Sulfur etc., and heavy metals ionic compound such as Tin, Lead, Mercury, Antimony, Bismuth, Arsenic etc., and Organometallic-salts etc., which will cause the gel incomplete curving even will be non-curved.

TYPICAL PROPERTIES

PROPERTY	TPS31	TPS32	TEST METHOD	UNIT
Color	White (A part) Translucent (B part)	White(A part) Black(B part)	Visual	-
Resin Base	Silicone	Silicone	-	-
A:B	100:10	100:100	-	-
Viscosity	1.9	3.2	ISO 3219	Pa.s
Density	1.35	1.72	ASTM D792	g/cm^3
Application temperature	-60~180	-60~180	-	°C
Working Time	25°C/30 min	25°C/1 hr	By LiPOLY	-
Curing Condition 2	25°C/48 hr	80°C/1 hr	By LiPOLY	-
Curing Condition 3	-	25°C/24 hr	By LiPOLY	-
Hardness	55	65	ASTM D2240	Shore A
Shelf Life	24 months	24 months	-	-
ROHS & REACH	Compliant	Compliant	-	-
ELECTRICAL				
Dielectric breakdown	10	9	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	$>10^{13}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity	0.55	1.5	ASTM D5470	W/m*K

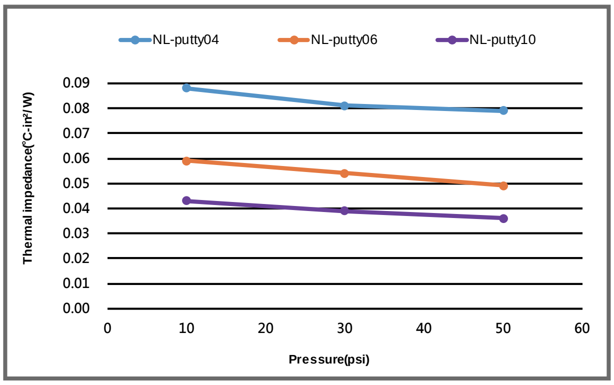
Note: All specifications provided by LiPOLY are subject to change without notice. The test methods used by LiPOLY are based on the TIM Tester method and ASTM D5470 test method. These test methods are used as the definition standards for LiPOLY. Property values provided in this document are not for product specifications or guaranteed. This document does not guarantee the performance and quality required for the purchaser’s specific purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser’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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

Non-Silicone Thermal Conductivity Low-Density Technical Data Product Related Testing

(1) Thermal Conductivity Test

NL-putty series follow the ASTM D5470 standard for thermal performance testing. The results indicate a thermal resistance range of 0.036~0.079 (℃-in²/W), prove that NL-putty series has ultra-low thermal resistance properties.

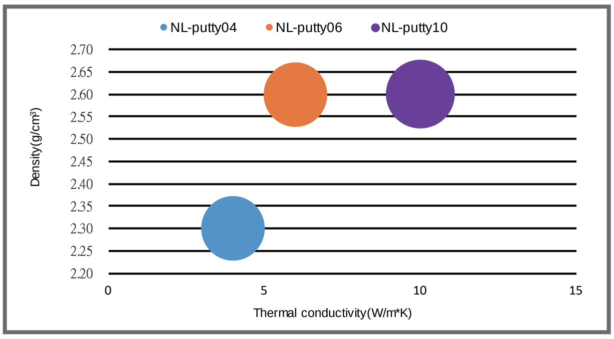
Graph of Pressure vs. Thermal Resistance



(2) Density Testing

NL-putty series is tested according to ASTM D792 for density, with results showing density range of 2.3~2.6 (g/cm³). This indicates that NL-putty series features ultra-low density and excellent thermal conductivity performance.

Graph of Density vs. Thermal Conductivity



(3) Low Molecular Siloxane Test

NL-putty series testing results show that, as a non-silicone product, it contains no silicone and thus has no low molecular siloxane volatilization, eliminating the risk of electrical failure.

Ret. Time (min)	Compound Name	NL-putty04	NL-putty06	NL-putty10
		Conc. (%)	Conc. (%)	Conc. (%)
1.48	D3 - Hexamethyl cyclotrisiloxane	N.D.	N.D.	N.D.
2.15	D4 - Octamethyl cyclotetrasiloxane	N.D.	N.D.	N.D.
3.15	D5 - Decamethyl cyclopentasiloxane	N.D.	N.D.	N.D.
4.55	D6 - Dodecamethyl cyclohexasiloxane	N.D.	N.D.	N.D.
5.95	D7 - Tetradecamethyl cycloheptasiloxane	N.D.	N.D.	N.D.
6.73	D8 - Hexadecamethyl cyclooctasiloxane	N.D.	N.D.	N.D.
7.30	D9 - Octadecamethyl octacyclononasiloxane	N.D.	N.D.	N.D.
8.50	D10 - Eisosamethyl cyclodecasiloxane	N.D.	N.D.	N.D.
D3 to D10		N.D.	N.D.	N.D.

NL-putty04

Non-Silicone Lightweight Thermal Conductive Putty

LiPOLY's NL-putty04 is a non-silicone, low-density gap filling material without volatile low-molecular-weight siloxane volatile, low total volatile gas. It is suitable for electronic products and automotive electronic devices. Its low density and lightweight characteristics improve product performance, reduce production costs, and minimize material usage and energy consumption. With a thermal conductivity of 4.0 W/m*K and high deformability, it can flexibly adapt to gap and has tolerance compensation properties. It can overcome overflow and drying problems, improve heat conduction, and is suitable for automated dispensing production.

FEATURES

/ Lightweight, Low Density, Thermal Conductivity: 4.0 W/m*K
/ High flow rate, extrusion rate under 90psi & 60s conditions: 29g/min
/ 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

/ lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft,Sports and leisure electronic products, Portable computers and tablets,wearable devices, Portable game consoles, VR devices and etc.

CONFIGURATIONS

/ Cartridges: 30ml, 150ml
/ Bucket: 1kg, 25kg

PRESERVATION

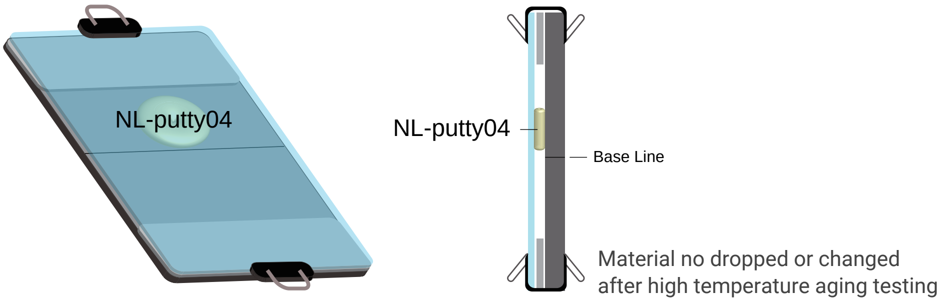
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	NL-putty04	TEST METHOD	UNIT
Color	Yellow	Visual	-
Resin base	Non-Silicone	-	-
Viscosity	2500	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	29	By LiPOLY	g/min
Density	2.3	ASTM D792	g/cm^3
Application temperature	-60~125	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	13	ASTM D149	KV/mm
Volume resistivity	$>10^{10}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	4.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 80°C	0.088	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 80°C	0.081	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 80°C	0.079	ASTM D5470	°C-in^2/ W

VERTICAL RELIABILITY

sing 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

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

NL-putty06

Non-Silicone Lightweight Thermal Conductive Putty

LiPOLY's NL-putty06 is a non-silicone, low-density gap filling material without volatile low-molecular-weight siloxane volatile, low total volatile gas. It is suitable for electronic products and automotive electronic devices. Its low density and lightweight characteristics improve product performance, reduce production costs, and minimize material usage and energy consumption. With a thermal conductivity of 6.0 W/m*K and high deformability, it can flexibly adapt to gap and has tolerance compensation properties. It can overcome overflow and drying problems, improve heat conduction, and is suitable for automated dispensing production.

FEATURES

/ Lightweight, Low Density, Thermal Conductivity: 6.0 W/m*K
/ High flow rate, extrusion rate under 90psi & 60s conditions: 28g/min
/ 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

/ lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft,Sports and leisure electronic products, Portable computers and tablets,wearable devices, Portable game consoles, VR devices and etc.

CONFIGURATIONS

/ Cartridges: 30ml, 150ml
/ Bucket: 1kg, 25kg

PRESERVATION

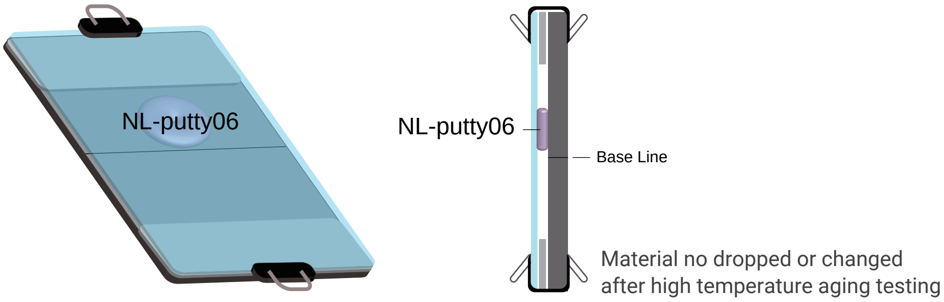
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	NL-putty06	TEST METHOD	UNIT
Color	Purple	Visual	-
Resin base	Non-Silicone	-	-
Viscosity	6000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	28	By LiPOLY	g/min
Density	2.6	ASTM D792	g/cm^3
Application temperature	-60~125	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	13	ASTM D149	KV/mm
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	6.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 80°C	0.059	ASTM D5470	$°C\text{-}in^2/W$
Thermal impedance@30psi / 80°C	0.054	ASTM D5470	$°C\text{-}in^2/W$
Thermal impedance@50psi / 80°C	0.049	ASTM D5470	$°C\text{-}in^2/W$

VERTICAL RELIABILITY

sing 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

NL-putty10

Non-Silicone Lightweight Thermal Conductive Putty

LiPOLY's NL-putty10 is a non-silicone, low-density gap filling material without volatile low-molecular-weight siloxane volatile, low total volatile gas. It is suitable for electronic products and automotive electronic devices. Its low density and lightweight characteristics improve product performance, reduce production costs, and minimize material usage and energy consumption. With a thermal conductivity of 10.0 W/m*K and high deformability, it can flexibly adapt to gap and has tolerance compensation properties. It can overcome overflow and drying problems, improve heat conduction, and is suitable for automated dispensing production.

FEATURES

/ Lightweight, Low Density,
  Thermal Conductivity: 10.0 W/m*K
/ High flow rate, extrusion rate under
  90psi & 60s conditions: 20g/min
/ 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

/ lightweight applications, such as Automotive electronic devices, Mobile communication device, Drone & aircraft,Sports and leisure electronic products, Portable computers and tablets,wearable devices, Portable game consoles, VR devices and etc.

CONFIGURATIONS

/ Cartridges: 30ml, 150ml
/ Bucket: 1kg, 25kg

PRESERVATION

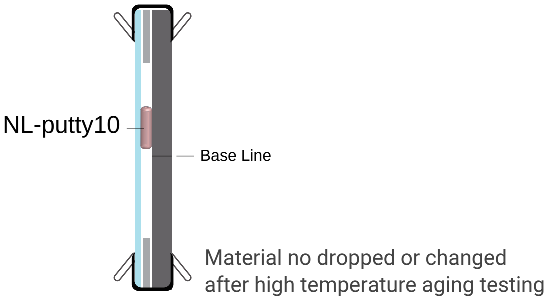
It can be preserved for 60 months under the condition of unopened and under room temperature 30℃.

TYPICAL PROPERTIES

PROPERTY	NL-putty10	TEST METHOD	UNIT
Color	Red	Visual	-
Resin base	Non-Silicone	-	-
Viscosity	10000	DIN 53018	Pa.s
Flow Rate (30cc EFD tube, 2.35mm Orifice diameter, 90psi&60s)	20	By LiPOLY	g/min
Density	2.6	ASTM D792	g/cm^3
Application temperature	-60~125	-	°C
Bond line thickness	100~1500	-	μm
Shelf life	60 months	-	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric breakdown	10	ASTM D149	KV/mm
Volume resistivity	$>10^{12}$	ASTM D257	Ohm-m
THERMAL			
Thermal conductivity	10.0	ASTM D5470	W/m*K
Thermal impedance@10psi / 80°C	0.043	ASTM D5470	°C-in^2/ W
Thermal impedance@30psi / 80°C	0.039	ASTM D5470	°C-in^2/ W
Thermal impedance@50psi / 80°C	0.036	ASTM D5470	°C-in^2/ W

VERTICAL RELIABILITY

sing 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

Thermal Graphite Sheet Series

Composite Graphite Sheet

Composite Graphite Sheet
TR332CU

TR series have EMI shielding effect, they can be bent and are suitable for thin and high-performance mobile devices, especially the XY axis has excellent thermal conductivity. The heat transfer method is through uniform temperature to assists heat element for heat diffusion.

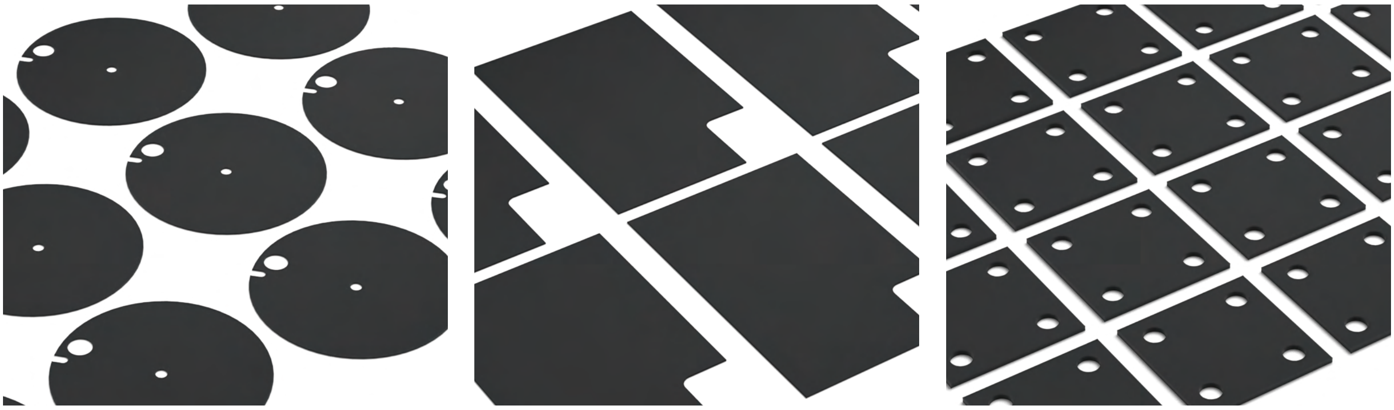
Graphite Sheet

Artificial Graphite Sheet
G566A / G566AP

G566 series artificial graphite sheets have the characteristics of thinness, lightweight, and high thermal conductivity. The thermal conductivity coefficient along the X and Y axes is as high as 1500~1700 W/m*K, allowing heat energy to be quickly and evenly distributed to achieve effective heat dissipation.

Natural Graphite Sheet
PT310

PT series have the characteristics of thinness, lightweight, and high thermal conductivity. The thermal conductivity coefficient on the X and Y axes is as high as 400 W/m*K, which can spread heat energy quickly and evenly to achieve the heat dissipation effect.



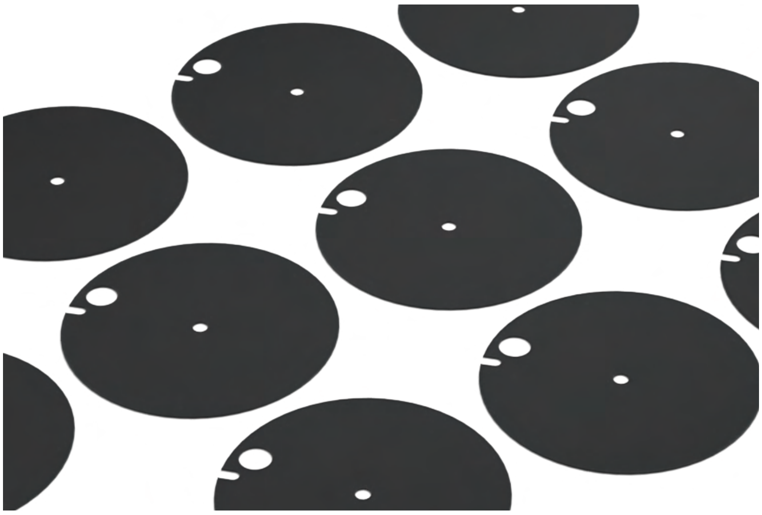
TR332CU

Composite Graphite Sheet

LiPOLY TR332CU is a complex thermally conductive film , composed of graphite radiator which can be laminated on copper foil to superior thermal management and ease of manufacture. TR332CU can be supplied in various manufacturing friendly formats and custom die-cut for the ultimate convenience.

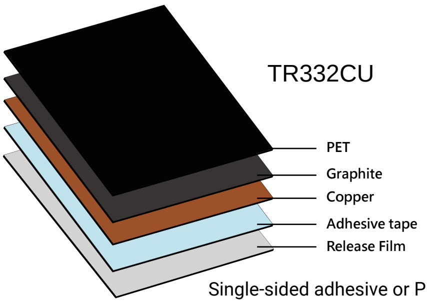
FEATURES

/ Excellent heat transfer
/ Manufacturing friendly form-factor
/ Can be custom die-cut
/ Flexibly conforms to surfaces



TYPICAL APPLICATION

/ Set top box
/ Notebook Computers
/ Projector
/ Mobile phone
/ Hand held devices
/ 5G base station & infrastructure
/ EV electric vehicle



Single-sided adhesive or PET can be added according to needs

SPECIFICATIONS

/ Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	TR332CU		TEST METHOD	UNIT
Color	Black		Visual	-
Thickness	0.10	0.15	ASTM D374	mm
TML	<0.1	<0.1	By LiPOLY	%
Application temperature	-60~120	-60~120	-	°C
Short time temp. @30sec	150	150	-	°C
ADHESION				
Initial tack	25	11	PSTC-6	cm
RADIATION				
Heat emissivity coefficient	0.96	0.96	ASTM C1371	-
ELECTRICAL				
Dielectric breakdown	1.0	1.5	ASTM D149	KV
Surface resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm
Volume resistivity	$>10^{11}$	$>10^{11}$	ASTM D257	Ohm-m
THERMAL				
Thermal conductivity XY axis	1500	1500	AC calorimeter	W/m*K
Thermal conductivity Z axis	1.2	1.2	Laser flash	W/m*K

G566A/G566AP

Artificial Graphite Sheet

LiPOLY G566 Graphite Sheet has great thermal conductivity on the X and Y axis. The thermal conductivity is 1500~1700 W/m*K. It is flexible and bendable, which is suitable for thin products and high capability mobile devices.

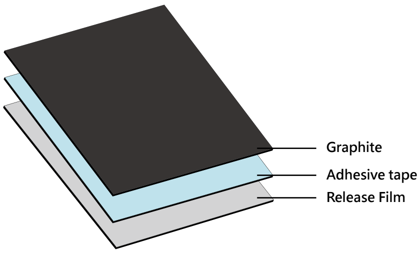
FEATURES

/ Thermal conductivity: 1500~1700 W/m*K
/ Good average temperature
/ Easy to assemble
/ Lightweight, Specific gravity 2.1 g/cm³

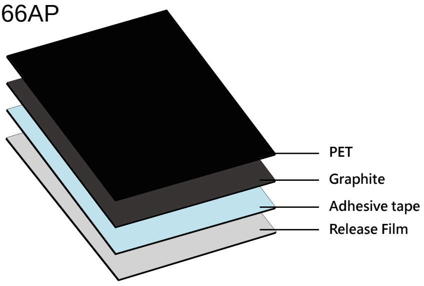
TYPICAL APPLICATION

/ Smart phones, Mobile phones
/ LED, DVD appliance
/ Hand held devices
/ 5G base station & infrastructure
/ EV electric vehicle

G566A



G566AP



Single-sided adhesive or PET can be added according to needs

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	G566A	G566AP	TEST METHOD	UNIT
Color	Black	Black	Visual	-
Surface tack 2-side/1-side	1	1	-	-
Thickness	35	45	Micrometer	µm
Density	2.1	2.1	Archimedes law	g/cm³
Heat resistance	120	120	-	°C
Flexibility	Flexible	Flexible	-	-
ROHS & REACH	Compliant	Compliant	-	-
ELECTRICAL				
Electrical conductivity	20000	20000	JIS K7194	S/cm
THERMAL				
Thermal conductivity XY axis	1500~1700	1500~1700	AC calorimeter	W/m*K
Thermal conductivity Z axis	5	5	Laser flash	W/m*K
Thermal diffusivity	8.92	8.92	AC calorimeter	cm²/s
Heat capacity(SHC)	0.895	0.895	-	J/g*K

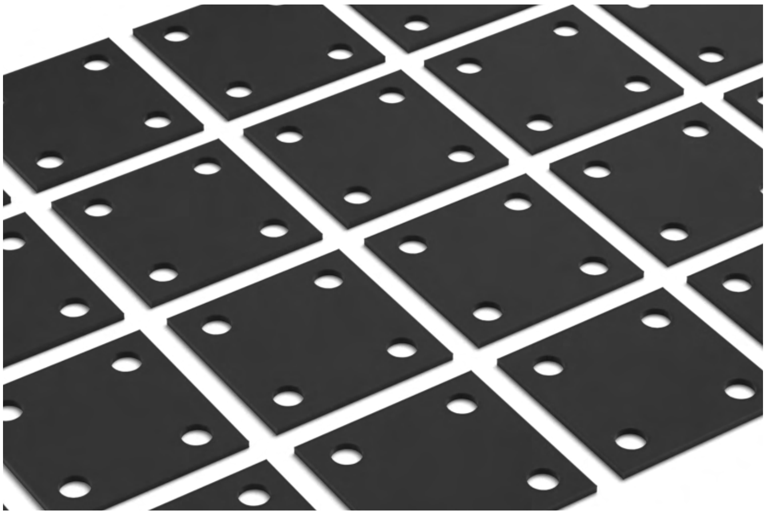
PT310

Natural Graphite Sheet

LiPOLY PT310 Natural graphite sheets have the characteristics of thinness, lightweight, and high thermal conductivity. The thermal conductivity coefficient on the X and Y axes is as high as 400 W/m*K, which can spread heat energy quickly and evenly to achieve the heat dissipation effect. PT310 can be attached to any flat or curved surface and can be cut in any form according to customer needs. It is especially suitable for thin products or 3C electronic products with limited space.

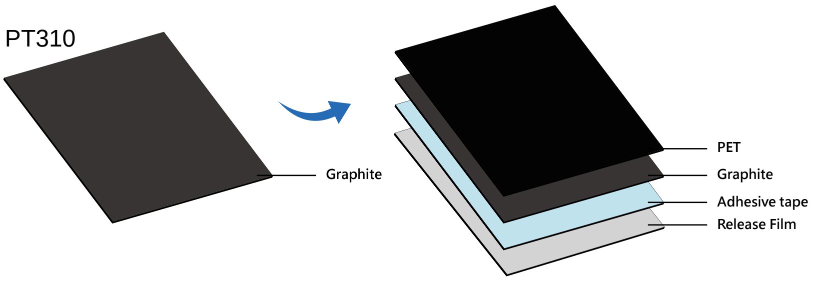
FEATURES

/ Thermal conductivity: 400 W/m*K
/ Good average temperature
/ Easy to assemble
/ Lightweight, Specific gravity 1.6 g/cm³
/ Thermal diffusivity over 2 cm²/s,
twice as high as copper.



TYPICAL APPLICATION

/ Smart phones, Mobile phones
/ LED, DVD appliance
/ Hand held devices
/ 5G base station & infrastructure
/ EV electric vehicle



Single-sided adhesive or PET can be added according to needs

SPECIFICATIONS

/ Roll form / Sheet form
/ Die-cut parts

TYPICAL PROPERTIES

PROPERTY	PT310				TEST METHOD	UNIT
Color	Black				Visual	-
Thickness	100	150	250	500	Micrometer	µm
Density	1.6	1.6	1.6	1.6	ASTM D792	g/cm³
Application temperature	-60~400	-60~400	-60~400	-60~400	-	°C
Tensile strength	270	270	270	270	ASTM D412	psi
Bending strength	10000	10000	10000	10000	-	-
ROHS & REACH	Compliant	Compliant	Compliant	Compliant	-	-
ELECTRICAL						
Electrical conductivity	2000	2000	2000	2000	JIS K7194	S/cm
THERMAL						
Thermal conductivity XY axis	420	400	400	380	AC calorimeter	W/m*K
Thermal conductivity Z axis	15	15	15	15	Laser flash	W/m*K
Thermal diffusivity	8	8	8	8	AC calorimeter	cm²/s
Heat capacity	0.075	0.075	0.075	0.075	-	J/g*K

Thermal Break Sheet Series

Thermal Break Sheet

Thermal Insulation Felt
AS17-s

AS17-s thermal insulation material is a fiber composed of porous structure silica, aluminum oxide and other materials, featuring an extremely low thermal conductivity of 0.028 W/m*K. AS17-s is known for its ability to prevent thermal runaway, with a low density and the capability to withstand temperatures up to 1300°C. Its outstanding characteristics include excellent thermal insulation, superior noise reduction, insulation, cushioning, and fire resistance, making it renowned in various applications. AS17-s is utilized across many different fields, including aerospace, energy storage, military, new energy, automotive, firefighting, and rail transportation.

Thermal Insulation Pad
AS27-s

AS27-s thermal insulation material is composed of nanoscale porous silica, carbon, and other materials. With an extremely low thermal conductivity of 0.009 W/m*K, it is one of the solid materials with the lowest known thermal conductivity. AS27-s is renowned for its extremely low density and exceptional thermal insulation properties, as well as its superior noise reduction, insulation, cushioning, and fire resistance capabilities. It is applied in various fields such as aerospace, electronics, energy, transportation, consumer electronics, and household appliances.

Thermal Insulation Foam
AS28-s

AS28-s is an ultra-soft thermal insulation material with a remarkably low thermal conductivity of just 0.028 W/m*K. In addition to its outstanding insulation performance, it also offers waterproof properties, high resilience, low compression set, excellent mechanical fatigue resistance, and flame retardancy ensuring stable and reliable performance even under harsh conditions.

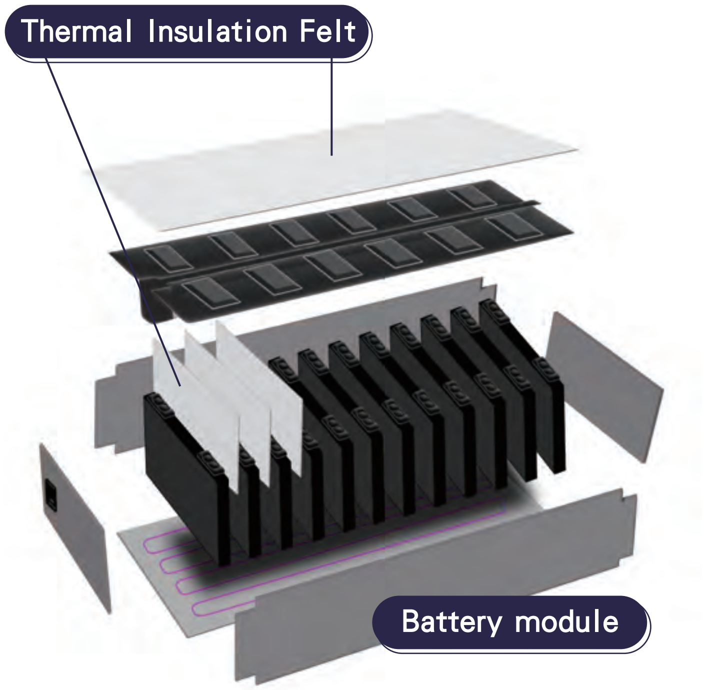
AS17-s

Thermal Insulation Felt

LiPOLY AS17-s thermal insulation material is a fiber composed of porous structure silica, aluminum oxide and other materials, featuring an extremely low thermal conductivity of 0.028 W/m*K. AS17-s is known for its ability to prevent thermal runaway, with a low density and the capability to withstand temperatures up to 1300°C. Its outstanding characteristics include excellent thermal insulation, superior noise reduction, insulation, cushioning, and fire resistance, making it renowned in various applications. AS17-s is utilized across many different fields, including aerospace, energy storage, military, new energy, automotive, firefighting, and rail transportation. Application scope of Application scope of AS17-s Continuously expanding, as the technology further develops, we will see more applications in emerging fields in the future, and these applications will continue to drive the importance of its application in modern industry and life.

FEATURES

/ Excellent thermal insulation performance, with a thermal conductivity of 0.028 W/m*K
/ Exceptional thermal stability, suitable for long-term use in environments up to 1300°C
/ Good aging resistance
/ High friction coefficient and stability, providing long-term physical support for various substrates
/ Complies with RoHS and REACH standards
/ Available in both rolls and sheets
/ Cotton felt feeling on surface



TYPICAL APPLICATION

/ Industrial applications, such as industrial industry, EV related (battery modules, electromagnetic cabin fireproof and thermal insulation layer, engine compartment fireproof and thermal insulation layer, body flame retardant and thermal insulation layer, seat flame retardant lining dashboard fireproof and thermal insulation layer)

TYPICAL PROPERTIES

PROPERTY	AS17-s	TEST METHOD	UNIT
Color	White	Visual	-
Thickness	Customized	ASTM D374	mm
Density	3.0	ASTM D792	g/cm^3
Water absorption	0	ASTM D570	%
Application temperature	-60~1300	-	°C
Short time temp.@30sec	1650	-	°C
TML(wt%)	0.02	By LiPOLY	-
Outgassing CVCM (wt%)	0.04	By LiPOLY	-
ROHS & REACH	Compliant	-	-
THERMAL@3.0mm			
Thermal conductivity	0.028	ASTM D5470	W/m*K
Thermal impedance@10 psi	56	ASTM D5470	°C-in^2/ W

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

AS27-s

Thermal Insulation Pad

LiPOLY's AS27-s thermal insulation material is composed of nanoscale porous silica, carbon, and other materials. With an extremely low thermal conductivity of 0.009 W/m*K, it is one of the solid materials with the lowest known thermal conductivity. AS27-s is renowned for its extremely low density and exceptional thermal insulation properties, as well as its superior noise reduction, insulation, cushioning, and fire resistance capabilities. It is applied in various fields such as aerospace, electronics, energy, transportation, consumer electronics, and household appliances. The range of applications for AS27-s continues to expand, and with further technological advancements, we will see more applications in emerging fields, driving its importance in modern industry and daily life.

FEATURES

/ Thermal conductivity: 0.009 W/m*K
/ Excellent thermal insulation
/ Can be custom die-cut
/ Flexibly conforms to surfaces
/ Lightweight, Specific gravity 0.09 g/cm^3
/ Both rolls and sheets are available
/ RoHS, REACH compliant

TYPICAL APPLICATION

/ Industrial application, such as Automotive electronic devices, Mobile communication device, Drone & aircraft, Sports and leisure electronic products, Portable、computers and tablets, wearable devices, Portable game consoles, VR devices and etc.

TYPICAL PROPERTIES

PROPERTY	AS27-s	TEST METHOD	UNIT
Color	White	Visual	-
Thickness	Customized	ASTM D374	mm
Density	0.09	ASTM D792	g/cm^3
Hardness	10	ASTM D2240	Shore A
Water absorption	0	ASTM D570	%
Application temperature	-60~200	-	°C
Application temperature (Double-sided lamination)	-60~150	-	°C
TML (wt%)	0.02	By LiPOLY	-
Outgassing CVCM (wt%)	0.04	By LiPOLY	-
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Volume resistivity	$>10^{11}$	ASTM D257	Ohm-m
Dielectric constant @KHz	5.5	ASTM D149	-
THERMAL			
Thermal conductivity	0.009	ASTM D5470	W/m*K
Thermal impedance@10 psi	158.97	ASTM D5470	°C-in^2/ W
Thermal impedance@20 psi	134.59	ASTM D5470	°C-in^2/ W
Thermal impedance@30 psi	105.88	ASTM D5470	°C-in^2/ W

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 purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. Statements concerning possible or suggested uses made herein shall not be relied upon or be constructed as a guaranty of patent infringement.

AS28-s

Thermal Insulation Foam

LiPOLY AS28-s is an ultra-soft thermal insulation material with a remarkably low thermal conductivity of just 0.028 W/m*K. In addition to its outstanding insulation performance, it also offers waterproof properties, high resilience, low compression set, excellent mechanical fatigue resistance, and flame retardancy ensuring stable and reliable performance even under harsh conditions. Despite its extremely lightweight structure, AS28-s effectively combines multiple functions such as thermal insulation, soundproofing, electrical insulation, shock absorption, and fire resistance, making it a multifunctional, high-performance material. With the increasing demand for materials capable of withstanding extreme environments in high-tech industries, AS28-s has been widely adopted in aerospace, energy technology, electronic devices, transportation, consumer electronics, and home appliances.

FEATURES

/ Thermal conductivity: 0.028 W/m*K
/ Lightweight with a specific gravity of 0.2 g/cm³
/ Extremely soft, with a hardness of Shore OO/15
/ Customizable die-cutting available in both roll and sheet forms
/ Stable performance with excellent weather resistance
/ Complies with RoHS and REACH compliant
/ Excellent compression deformation resistance and long lasting high elasticity, making it suitable as long term shock protection accessories
/ Designed for use in cleanroom environments

TYPICAL APPLICATION

/ Industrial Applications include automotive electronics, mobile communication devices, drones and aircraft, sports and leisure electronic products, portable devices, computers and tablets, wearable devices, portable gaming consoles, VR equipment, and more.

TYPICAL PROPERTIES

PROPERTY	AS28-s	TEST METHOD	UNIT
Color	Black / Gray	Visual	-
Thickness	Customized	ASTM D374	mm
Density	0.2	ASTM D792	g/cm³
Hardness	15	ASTM D2240	Shore OO
Water absorption	0.01	ASTM D570	%
Application temperature	-60~200	-	°C
Tensile Strength	>120	ASTM D412	Kpa
Elongation at Break	>70	ASTM D412	%
Compressive Stress@25%	≧10	By LiPOLY	Kpa
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Dielectric Breakdown	3.1	ASTM D149	KV/mm
Volume resistivity	$>10^{13}$	ASTM D257	Ohmm
THERMAL			
Thermal conductivity	0.028	ASTM D5470	W/m*K

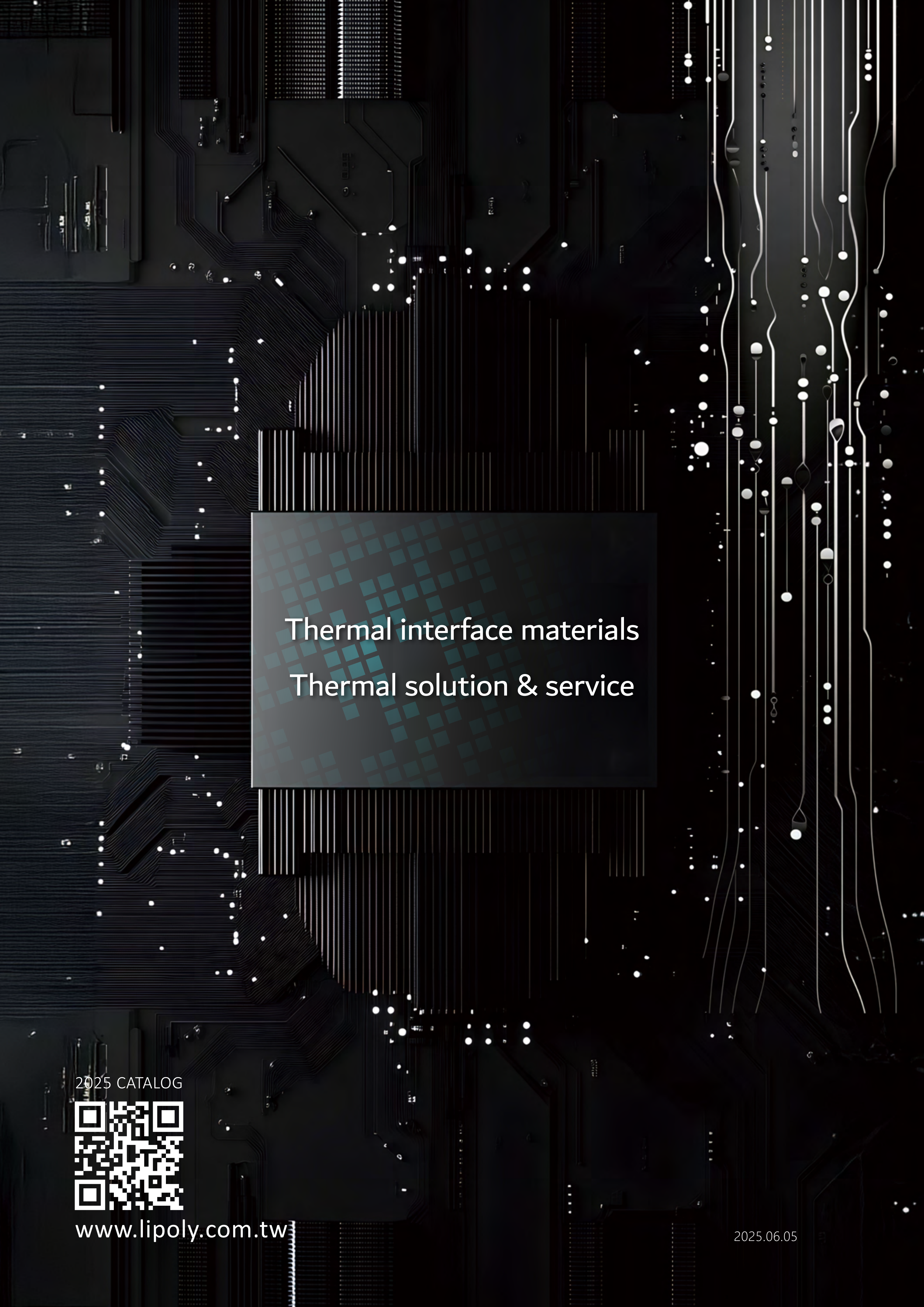
Note: All specifications provided by LiPOLY are subject to change without notice. The test methods used by LiPOLY are based on the TIM Tester method and ASTM D5470 test method. These test methods are used as the definition standards for LiPOLY. Property values provided in this document are not for product specifications or guaranteed. This document does not guarantee the performance and quality required for the purchaser's specific purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser'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 Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including 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.

LiPOLY®
SHIU LI TECHNOLOGY CO.,LTD

Shiu Li Technology has advanced manufacturing technology at our HQ in Taiwan. All of our products undergo extensive testing in our state-of-the-art experimental development lab and reliability testing lab. Shiu Li has top-of-the-line manufacturing technology, a complete experiment development lab, and an advanced reliability testing laboratory.

TESTING CAPABILITIES

- **Thermal Resistance Testing**
- **Thermal Conductivity Testing**
- **Viscosity Testing**
- **Hardness Testing**
- **X-ray Testing**
- **Compression Force Testing**
- **Peeling Strength Testing**
- **Holding Power Testing**
- **Attenuation Testing**
- **Electrical Resistance Testing**
- **Dielectric Testing**
- **GC Testing**
- **Thermal Aging Testing**
- **Thermal HAST Testing**
- **Thermal Cycling Testing**



Thermal interface materials

Thermal solution & service

2025 CATALOG

www.lipoly.com.tw

2025.06.05