Taica

http://www.taica.co.jp/gel-english/

Taica Corporation

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ISO9001

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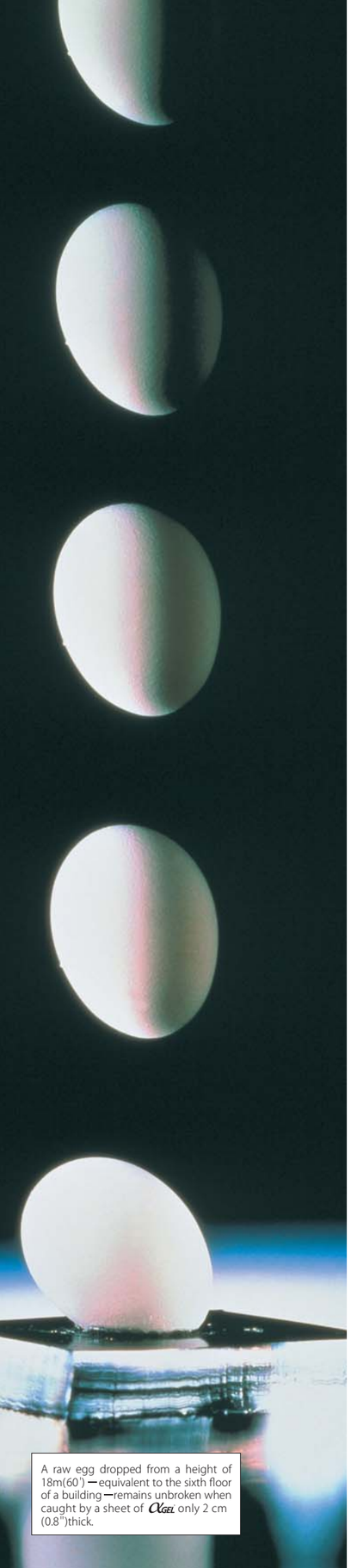
αGEL®
Discover Softness.

Thermal Conductive GEL

Taica



A raw egg dropped from a height of 18m(60') — equivalent to the sixth floor of a building — remains unbroken when caught by a sheet of αGEL only 2 cm (0.8")thick.

αGEL® Discover Softness.

Excellent Cushioning and Vibration Damping Performance

Shock Absorption & Vibration Damping

αGEL 's (Alpha GEL) softness allows for deflection required for shock absorption and vibration damping, providing excellent cushioning and vibration damping performance.

Superior Durability

Durability

αGEL is highly resistant to ozone, UV rays and chemicals,making it possible to use in a variety of locations. In addition, its performance is maintained even after repeated compression.

Stable Performance Even In a Harsh Environment

Stability

αGEL 's properties show little change in the -40℃(-40 ℉) to 200℃ (392 ℉) range, providing stable performance.

Outstanding Platform for Additional Functions and Enhanced Performance

Function

On top of the unique combination of excellent features, αGEL also works as a reliable foundation for additional functions and for enhancing performance without compromising the merits softness brings.

Extremely High Safety

Safety

αGEL 's composition makes it harmless to the human body and to the environment, causing no allergies when touched, and emitting no harmful gases when burned.

+

Taica's Know-how

Engineering & Know-How

You can count on us for enhanced cushioning, vibration damping, tender feel, and more.
Years of accumulated expertise and know-how, mastery of fine-tuning softness, designing and making optimum gel parts --- together all of these help cope with a variety of changing environments and needs of customers around the globe.

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Sheet-type Thermal Conductive GEL

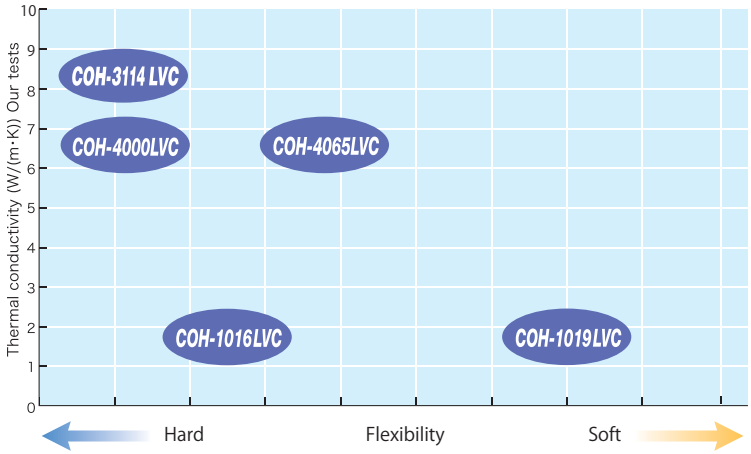
λGEL™ COH

◆Lambda GEL/COH

Features

- Offers outstanding thermal conductivity and excellent heat dissipation.
- Adhere to rough surfaces and push out all air gaps.
- Good electrical insulators and flame retardant.

[Thermal Conductivity and Flexibility]



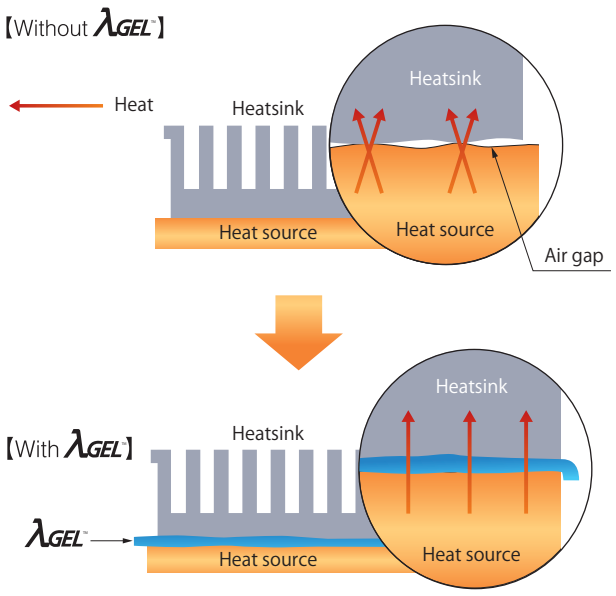
General Properties

Item \ Grade		COH-1016LVC	COH-1019LVC	COH-4000LVC	COH-4065LVC	COH-3114LVC	Remark
Characteristics		Few low molecular weight Siloxane	High damping	Few low molecular weight Siloxane	High thermal conductivity+High damping	High thermal conductivity	
Thermal conductivity (W/(m·K))	Our tests	1.9	1.9	6.5	6.5	8.2	—
	Hot Wire (※1) Method	1.2	1.2	2.1	2.1	3.1	JIS R 2616
Hardness	Needle penetration (1/10mm)	60	90	45	65	—	JIS K 2207
	Asker C	—	—	—	—	40	JIS K 7312
Appearance		White	Blue	Gray	Reddish brown	Gray	—
Specific gravity		1.7	1.7	2.9	2.8	3.0	JIS K 6249
Tensile strength (MPa)		0.21	0.14	0.35	0.10	0.69	JIS K 6249
Volume resistivity (Ω·cm)		6.1×10^{13}	3.1×10^{13}	7.1×10^{13}	4.4×10^{12}	1.2×10^{12}	JIS K 6249
Dielectric breakdown strength (kV/mm)		18.8	16.5	12.5	13.6	11.3	JIS K 6249
Elongation (%)		205	480	68	132	35	JIS K 6249
Compression set (%)		15	51	72	75	63	JIS K 6249
Dielectric constant	〈50Hz〉	4.8	4.6	5.6	6.8	8.4	JIS K 6249
	〈1kHz〉	4.3	4.2	5.0	6.5	7.3	JIS K 6249
	〈1MHz〉	4.0	3.9	5.5	6.0	6.5	JIS K 6249
Dielectric dissipation factor	〈50Hz〉	0.071	0.055	0.006	0.058	0.171	JIS K 6249
	〈1kHz〉	0.046	0.034	0.002	0.041	0.060	JIS K 6249
	〈1MHz〉	0.007	0.006	0.0004	0.011	0.0151	JIS K 6249
RoHS controlled substances (※2)		Not detected	Not detected	Not detected	Not detected	Not detected	—
Temperature range (℃)		-40~150	-40~150	-40~150	-40~150	-40~150	—
One side non tacky type		○	○	○	○	○	

(※1) Hot Wire Method : Using the QTM-500 Quick Thermal Conductivity Meter,from Kyoto Electronics Manufacturing Co.,LTD.
(※2) Temperature Range of Use: Range of measured stable thermal conductivity and hardness properties.
Please conduct appropriate reliability testing under actual usage conditions.

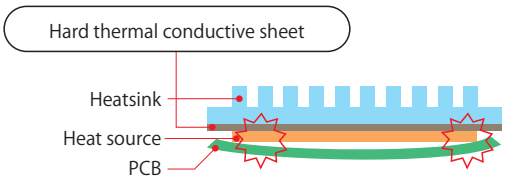
※Not Specified Values

The flow of heat

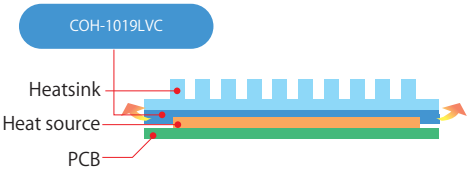


λGEL benefits

✕ Hard thermal conductive sheet stresses IC and PCB.



●Softness of λGEL releases stress and absorbs tolerance.



Directions

- ◆ Slowly peel off one side of the protective film of λGEL.
- ◆ Carefully place λGEL sheet on the heat source or heatsink without air gap.
- ◆ Peel off the remaining layer from λGEL with no air gap in between the sheet and heat dissipating device or heat generating device.

Delivery Format

【Basic Specifications】

Sheet size	400×400mm
Sheet thickness	0.5、1.0、2.0、3.0mm

※ *COH-4065LVC , COH3114LVC* 1.0、2.0、3.0mm

Notes

●To the best of our knowledge, the information and statements on this brochure are believed to be true and reliable; however, the PRODUCTS described herein are sold WITHOUT ANY GUARANTEE OR WARRANTY INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES since the application and conditions of each use vary and change, and are beyond the control of manufacturer and seller(s). The customers and users of the PRODUCTS shall assume the responsibility for determining the suitability of the PRODUCTS based on their tests and for whatever risks and liability associated with the use of the PRODUCTS. NEITHER MANUFACTURER NOR SELLER(S) SHALL BE LIABLE EITHER IN TORT OR CONTRACT OR ANY OTHER CAUSE FOR ANY KIND OF LOSS OF PROFITS OR DAMAGE, INCIDENTAL, DIRECT, OR CONSEQUENTIAL, ARISING OUT OF OR IN CONNECTION WITH THE USE OF OR THE INABILITY TO USE THE PRODUCTS.

●It is highly recommended that users would not use the products shown in the brochure in medical applications, particularly for implantation use.

●The users shall be aware of the fact that silicone oil could bleed from silicone-gel. It is therefore that any user should be responsible for conducting reliability test in advance before delivering the products in the market.

●The silicone-gel contains low molecular siloxane, which could be volatile.

●The seller or manufacturer shall not be responsible for any defects to the supplied product, unless it is proven that the supplied product has defects attributed to the intent or neg ligence of the manufacturer. If that is the case a replacement product shall be provided.

●The seller or manufacturer shall not be responsible for any recommendations, proposals and suggestions or matters not stated in this catalogue, unless otherwise agreed in writing and signed by duly authorized representatives of the seller or manufacturer.

●The customer shall be legally responsible for the import and export of the products of Taica Corporation. Please inform yourself about the laws and regulations of the relevant countries regarding import and export prior to your purchase.

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Paste-type (Grease) Thermal Conductive GEL

λGEL™ DP

◆Lambda GEL/DP

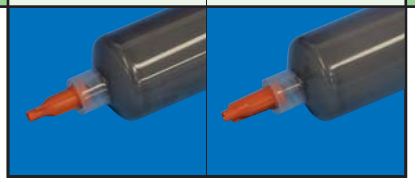
Fill gaps around the heat source for
improving heat dissipation.
Eliminate running and vaporization problems.
Easily spreads over heat generating devices.

Features

- Very soft paste-type (grease)GEL with thermal conducting properties.
- Cross-linked particles of λGEL DP eliminate running and vaporization problems seen with traditional grease and phase change materials.
- Good electrical insulators.

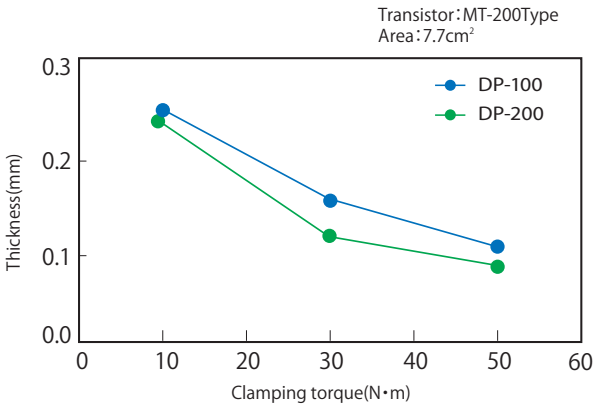
General Properties

Item \ Grade		DP-100	DP-200	Remark
Thermal conductivity (W/(m・K))	Our tests	6.5	4.8	—
	Hot Wire Method (※1)	2.0	1.6	JIS R 2616
Hardness (Cone penetration 1/10mm, not mixed)		51	55	JIS K 6249(1/4cone)
Appearance		Gray	Gray	—
Specific gravity		2.8	2.6	JIS K 6249
Volume resistivity (Ω・cm)		5.9×10^{13}	7.2×10^{14}	JIS K 6249
Dielectric breakdown strength (kV/mm)		5.0	5.6	JIS K 6249
Dielectric constant	〈50Hz〉	8.9	7.6	JIS K 6249
	〈1kHz〉	7.8	6.7	JIS K 6249
	〈1MHz〉	7.0	6.6	JIS K 6249
Dielectric dissipation factor	〈50Hz〉	0.234	0.017	JIS K 6249
	〈1kHz〉	0.061	0.007	JIS K 6249
	〈1MHz〉	0.015	0.005	JIS K 6249
Low molecular weight Siloxane level ΣD4-10 (ppm)	Solvent Extraction Method	Less than 700	Less than 900	—
	Head Space Method (※2)	Less than 1	Less than 3	—
RoHS controlled substances		Not detected	Not detected	—
Temperature range (℃)		-40～200	-40～150	—

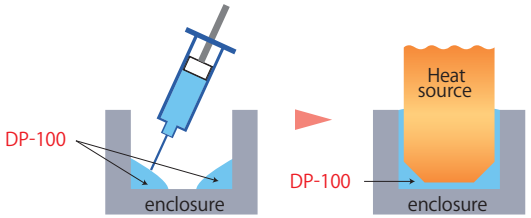


(※1) Hot Wire Method : Using the QTM-500 Quick Thermal Conductivity Meter, from Kyoto Electronics Manufacturing Co.,LTD.
(※2) Head Space Method : at 70℃
※Not Specified Values

【Clamping Torque Dependency】



【Filling Example】 DP-100



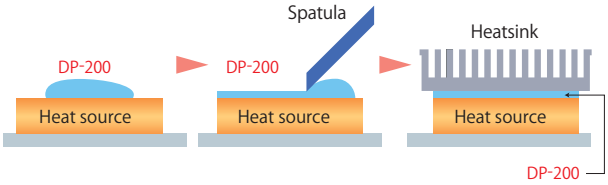
【Thermal Resistance】

Transistor：MT-200 type
Heat input：20V

Thickness (mm)	0.10	0.15	0.20	0.30
DP-100	—	0.13	0.15	0.18
DP-200	0.13	—	0.17	0.22

(℃/W)

【Coating Example】 DP-200



Delivery Format

【Basic Specifications】

DP-100/DP-200	Syringe 30mL

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