

KCC SILICONE RTV

New world | New leader | New face



RTV

KCC SILICONE RTV CATALOG



Coporate Headquarters 344, saphyeong-daero, seocho-gu, korea
Tel. (82)-2-3480-5811 Fax. (82)-2-3479-8300

Homepage www.kccsilicone.com

UK

KCC Basildon Chemical Co., Ltd.
7 Kimber Road, Abingdon, Oxon OX14 1RZ, England (Zip code : OX14)
Tel: (44)-1235-205003, Fax: (44)-1235-524334, Email : hukim@kccworld.co.kr

GUANGZHOU, CHINA

KCC(GUANGZHOU) Co., Ltd.
No.9 Doutang street, Yonghe Economic Zone,
Guangzhou, P.R.China (Zip code : 511356)
Tel: (86)-20-3222-1111, Fax : (86)-20-3222-2021
Email : Kccguangzhou@kccworld.co.kr

INDIA

KCC India representative
No. 17013, Tower 17A
Prestige Bella Vista
lyappathangal, Chennai - 600056, India
Ph : (91)-96000-56740

2021.05



We are reaching out to the world
with quality and technology

Introduction

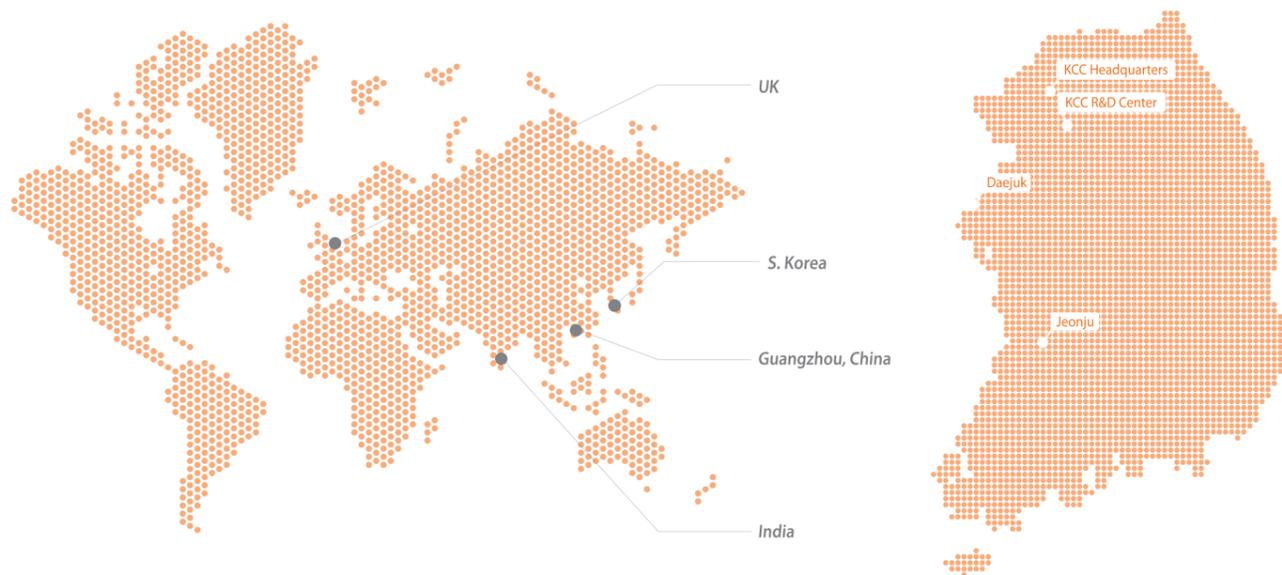


A PRECISION CHEMICAL CORPORATION GROWING RAPIDLY BASED ON CUSTOMER'S CONFIDENCE

With state-of-the-art technology and ultra-modern production facilities, KCC Silicone seeks the perfection in the quality of its products and customer services. Each and every product that it introduces to its customers on the marketplace is always the result of creative and intensive R&D activities satisfying the diversified customer needs.

KCC Silicone always remains deeply committed to ever the living environment by leading the building and industrial upgrading materials industry through continuous research and development precisely reflecting the market trends and user-wishes.

KCC Silicone Corporation Service Network



Introduction

WE ARE REACHING OUT TO THE WORLD WITH QUALITY AND TECHNOLOGY

We produce and distribute various silicone products including silicone rubber, sealants for construction and industrial use, silane, silicone oil, silicone emulsion, and silicone dispersion products.

Today's building materials are essential blends or composites of organic and inorganic chemical products.

KCC Silicone takes pride in being a market leader in these particular chemical fields. In the past, the two divisions within KCC Silicone operated separately, but they are now merged together to provide enhanced synergy, cost efficiency, and service to our multitude of highly valued customers. Korea Chemical Co. Ltd., that specialized in organic chemical products (mainly paints and resins for paints) has merged with Kumgang Chemical Co. Ltd., into a single legal entity entitled Kumgang Korea Chemical Co. Ltd. The company is known as KCC Silicone for short.

The technical integration of the organic and inorganic chemistry business under the same roof ensures better products, better technical service, and more competitive prices. KCC Silicone continues to be a worldwide industrial player in the 21st century and continues to invest in innovative R&D activities.

Introduction to KCC Silicone Business

KCC Silicone constructed the first silicone monomer production plant in Korea in 2003. KCC Silicone has made great R&D advances for the silicone industry with researchers specialized in the field of silicone monomer, polymer synthesis, and the development of applicable products. Thus, KCC Silicone has completed the development in the silicone-related field successfully. KCC Silicone is ready to produce and provide silicone products including silicone sealant for construction, industrial RTV, silane, fluids, emulsion and dispersion, as well as rubber.

Moreover, KCC Silicone makes contributions to promote the competitive power of our customers by supplying products corresponding to their needs and by concentrating our energies on R & D activities.

Contents

Adhesive at a Glance	07
Coating Agent at a Glance	09
Potting Agent at a Glance	10
MMR at a Glance	11
Gel Products at a Glance	12
Silicone Materials for LED	16
Die Carrier Silicone for Semiconductor PKG EMI Shielding	18

Features of RTV Silicone



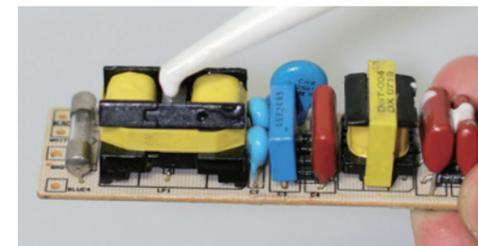
TEMPERATURE RESISTANCE

For heat-resistant sealing of heat devices such as microwave



SHOCK RESISTANCE

For applications such as vibration devices



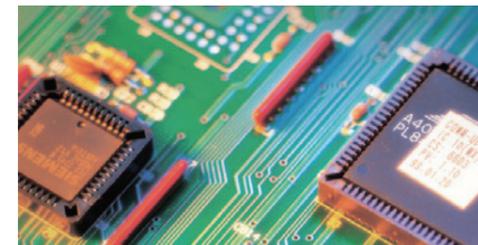
ADHESION

For heat-dissipating sealing of heat devices



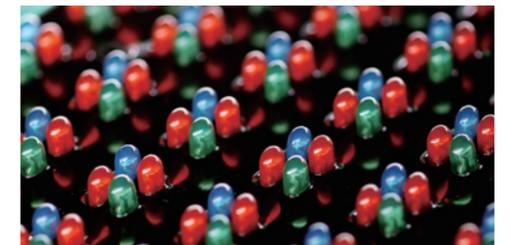
OIL AND CHEMICAL RESISTANCE

For sealing and potting of equipment and sensors of automotive parts



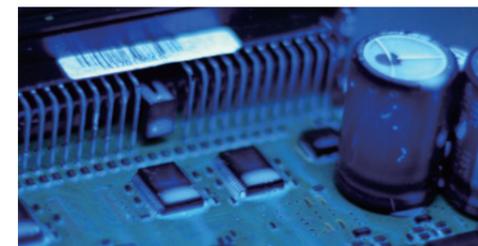
ELECTRICAL PROPERTIES

For damp-proof coating of electrodes and other applications



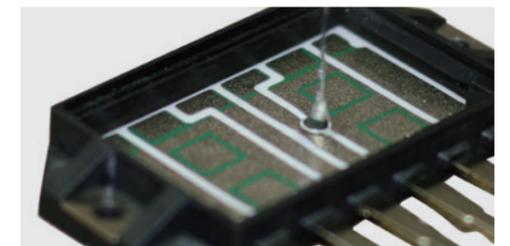
WEATHER RESISTANCE

For sealing of outdoor equipments



NON SOLVENT FORMULATIONS

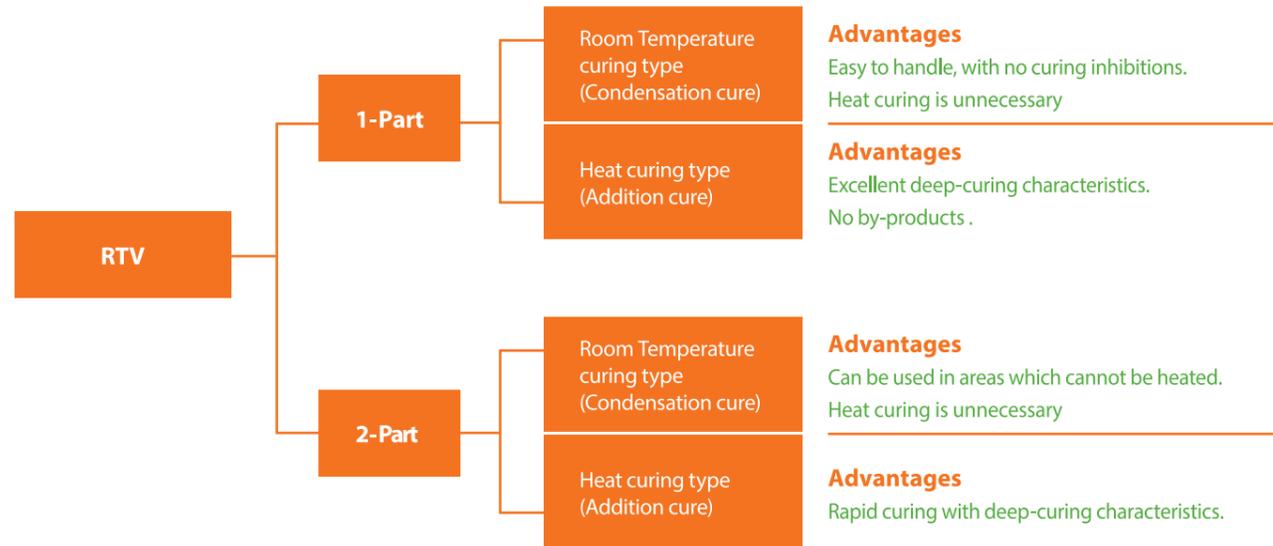
For coating of various substrates



ENCAPSULANT

For potting of various substrates

RTV Classification



Parameter	Addition Cure, 1-part & 2-part	Condensation Cure 1-part	Condensation Cure 2-part
Moisture	Unnecessary	Necessary	Necessary
By-products	NO	YES	YES
Curing inhibition	YES	NO	NO
Availability at closed areas	YES	NO (Deep or wide areas)	NO (Deep or wide areas)
Deep section cure	Good	Bad	Good

Adhesive at a Glance

KCC Silicone adhesive series performs excellent adhesion to most of all substrates without primers. KCC Silicone adhesive series offers outstanding weather resistance assuring semi-permanent use and excellent heat resistance from -40°C to 200°C

APPLICATION

1. Protective sealing for electronic parts such as connector, sensor, and power supply
2. Flame-retardant, sealing material to lid power supplies, connector, sensor
3. Part fixing for hybrid PCB and the case
4. Adhesive for circuit component

FEATURE

1. Available for room temperature and heat curing
2. Excellent weatherability and physical property
3. Fast cure



Condensation Type (Room Temperature Cure)						Addition Type (Heat Cure)
Flowable		Semi-Flowable		Non-Flowable		General Purpose
Alkoxy Type	Oxime Type	Alkoxy Type	Oxime Type	Alkoxy Type	Oxime Type	
SS4000IH	QS9122(OS)(S)	SS7944	QS9115	QS9118	QS9102	SL3137
	QS9177	SS7937	SS4108	QS9119	QS9106	SL3139
	SS4100			SS7988	QS9112	
	QS9113			SS9000	QS9114	
				SS9912		
				SS4080		

CONDENSATION TYPE

Product	Color	Viscosity [mPa·s (cP)]	Hardness (Shore A)	Tensile Strength (MPa)	Elongation (%)	TFT (min)	UL Certi.
SS7937	Semi-transparent	60,000	10	0.5	280	10	-
SS4000IH	Slightly yellow Translucent	5,500	15	1.0	180	17	UL94 HB
QS9122(OS)(S)	Semi-transparent	30,000	6	1.06	400	18	UL94 HB
QS9177	Translucent	6,000	15	1.44	300	20	UL94 HB
QS9177-(L)	Translucent	9,500	15	1.44	300	10	UL94 HB
SS4100	Black	53,000	15	1.44	300	20	UL94 HB
QS9113	Red	12,000	20	1.8	300	25	UL94 HB
SS7944	Slightly yellow Translucent	14,000	28	1.3	150	8	UL94 V-0
QS9115	Black	200,000	41	1.9	210	10	UL94 HB
SS4108	Black	18,000	15	2.4	380	27	UL94 HB
QS9118	White	Paste	30	1.8	500	30	UL94 HB
QS9119	White, Gray	Paste	40	3.0	550	45	UL94 HB
SS7988	White, Gray, Black	Paste	25	2.2	600	5	UL94 HB
SS9000	White, Black	Paste	22	2.0	600	15	UL94 HB
SS9912	White	Paste	40	1.8	300	16	UL94 V-0
SS4080	White	Paste	60	2.0	150	10	UL94 HB
QS9102	White, Black	Paste	25	1.9	350	6	UL94 HB
QS9106	Translucent	Paste	30	1.2	450	4	UL94 HB
QS9112	White	Paste	40	2.45	210	4	UL94 HB
QS9114	Black	Paste	40	1.9	350	10	UL94 HB

ADDITION TYPE

Product	Color	Viscosity [mPa·s (cP)]	Hardness (Shore A)	Tensile Strength (MPa)	Elongation (%)	Lap Shear Strength (MPa)
SL3137	Beige	40,000	55	5.0	150	4.0
SL3139	Black	25,000	45	4.0	200	3.0

Coating Agent at a Glance

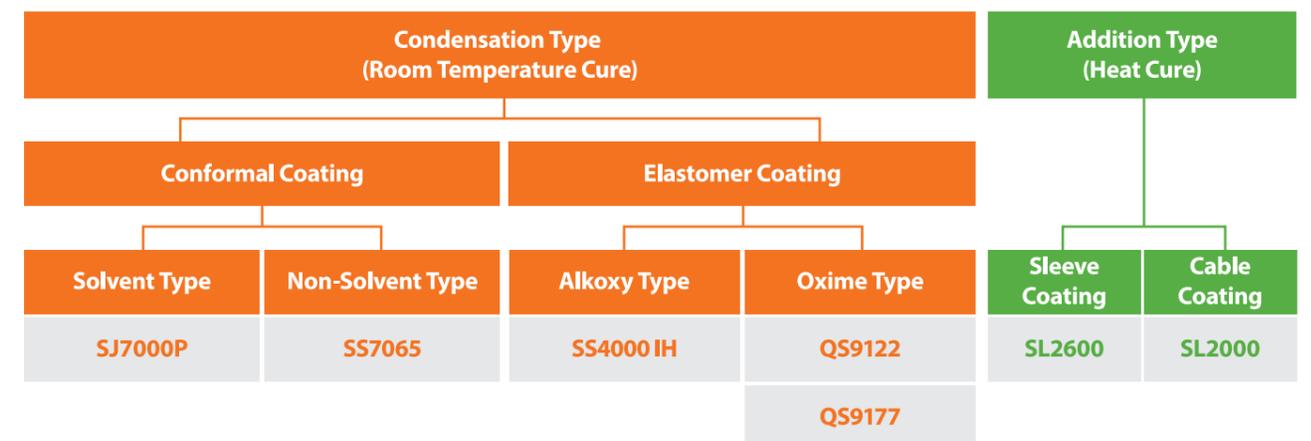
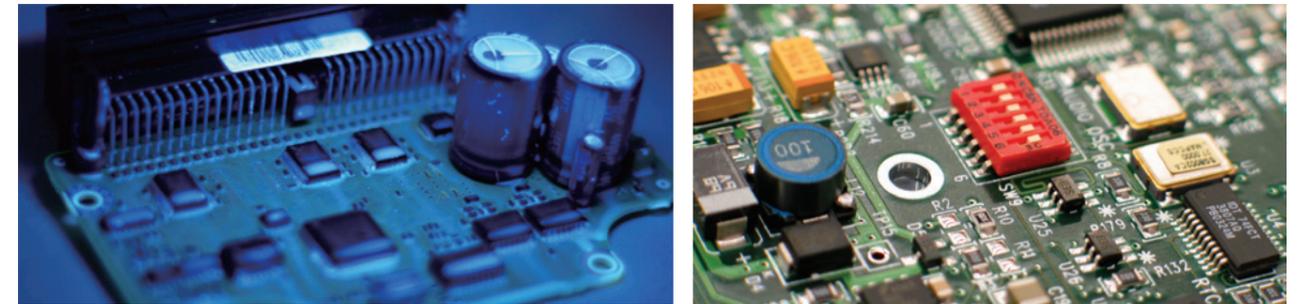
Organic and inorganic structure of KCC Silicone coating series provide exceptional properties and superlative protection on sensitive electronic components against external influences lessening mechanical thermal stress, but improving electronic insulation. These also perform excellent adhesion to most of common electronic components.

APPLICATION

1. Used in PCB parts to protect from chemical and mechanical damages
2. Used in IC Chip for adhering and coating
3. Protective against dust and humidity
4. Available for spraying, dipping, and brush painting

FEATURE

1. RTV-1, Condensation type
2. Fast curing by moisture
3. Eco-Friendly (Non organic solvent)
4. Resistance to humidity and other harsh environment



CONDENSATION TYPE

Product	Color	Viscosity [mPa·s (cP)]	Hardness (Shore A)	TFT (min)	Cure Con.	UL Certi.
SJ7000P	Light yellow	900	80	10	25°C x 24hrs	UL94 V-0
SS7065	Light yellow	150	32	7	25°C x 24hrs	UL94 V-0
SS4000IH	Slightly yellow Translucent	5,500	15	17	25°C x 24hrs	UL94 HB
QS9122	Translucent	12,000	6	50	25°C x 24hrs	UL94 HB
QS9177	Translucent	6,000	15	20	25°C x 24hrs	UL94 HB
QS9177-(L)	Translucent	9,500	15	10	25°C x 24hrs	UL94 HB

ADDITION TYPE

Product	Color	Mix Ratio	Viscosity [mPa·s (cP)]	Hardness (Shore A)	Cure Con.	Pot Life (hour)	UL Certi.
SL2600AC	Translucent	10:1	PTA : 65,000, PTC : 340	40	170°Cx10min	24	-
SL2000AB	White, Transparent	10:1	PTA : 110,000, PTB : 3,000	35	170°Cx10min	15	-

Potting Agent at a Glance

KCC Silicone potting materials are two components offering protection on sensitive components against external influences and harsh environmental conditions. Further features are water-repellent and excellent electric strength, insulation resistance, dielectric strength, and tracking resistance. Also, KCC Silicone potting materials dampen mechanical vibrations excellently.

APPLICATION

1. Able to apply to power supplier, connector, sensor, relay, and high voltage resistor
2. Used for LED potting

FEATURE

1. Excellent weatherability
2. Excellent thermal stability
3. Excellent flowability

Self- Priming	Non- Priming	
Transparent	Black/White	Transparent
SL3512	SL3000	SL3000 TR
	SL3000 D	SL3500

Product	Color	Mix Ratio	Viscosity [mPa·s (cP)]	Hardness (Shore A)	Cure Con.	Pot Life (hour)	UL Certi.
SL3512	Transparent	3:1	10,000	41	170°C x 10min	9	
SL3000	White, Black	1:1	2,400	45	80°C x 20min	35min	UL94 V-0
SL3000-D	Black	1:1	1,200	30	80°C x 20min	30min	UL94-V2
SL3000-TR	Transparent	1:1	700	20	25°C x 24hrs	40min	
SL3500	Transparent	1:1	40,000	50~60	130°C x 10min	3 days	

MMR at a Glance

KCC Silicone mold making rubbers are two components offering excellent reproduction of the original. KCC Silicone MMR series imparts high resistance to various reproduction materials, long-term durability, and outstanding flexibility and release properties.

APPLICATION

1. Mold making of prototype
2. Excellent in making a full-scale replica of the original

FEATURE

1. Excellent thermal stability
2. Excellent workability(available for reworking more than 15 times)

Mold Making Rubber		Pringting Pad Rubber
Condensation Type	Addition Type	Addition Type
SS1501	SL2502	SL2402
		SL2405



Product	Color	Mix Ratio	Viscosity [mPa·s (cP)]	Hardness (Shore A)	Tensile Strength (MPa)	Elongation (%)	Tear Strength (N/mm)	Cure Con.	Characteristic
SS1501	White	10:1	18,000	30	4.0	250	13	25°C x 3 days	-
SL2502	Translucent	10:1	22,000	40	5.5	380	35	25°C x 24hrs 60°C x 120min 170°C x 10min	-
SL2402	Blue	10:1	7,000	23	3.1	500	15	25°C x 24hrs	Antistatic
SL2405	Blue	10:1:2	2,500	20	3.0	400	15	25°C x 24hrs	Antistatic

Gel Products at a Glance

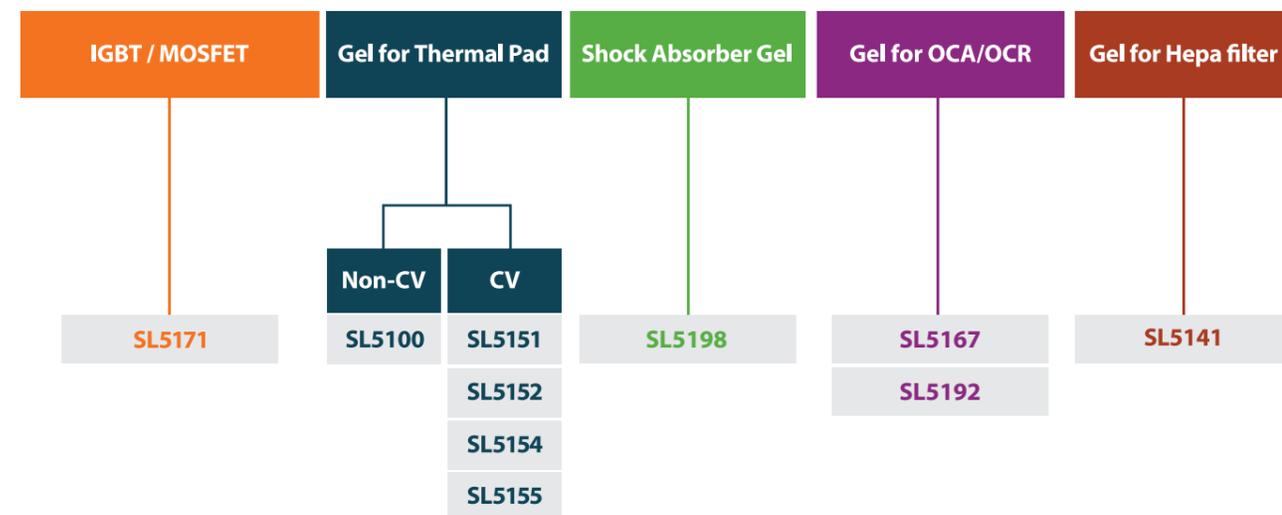
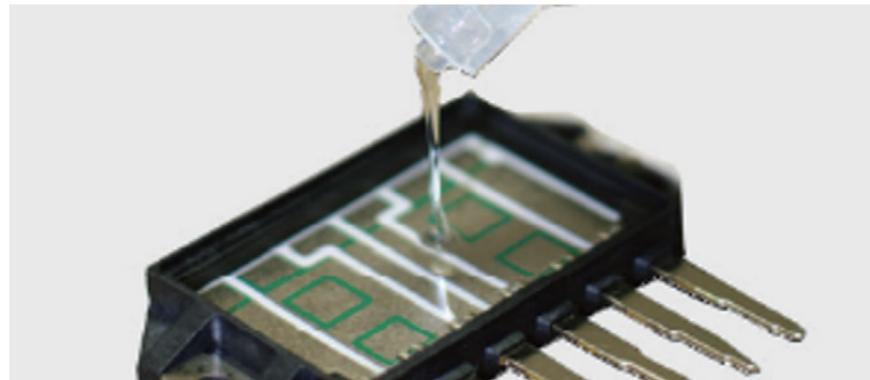
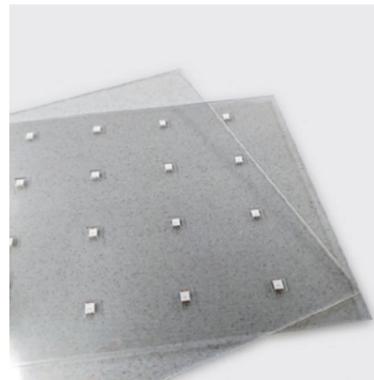
KCC Silicone gel provides protection on sensitive components against external influences. Silicone gels are water-repellent, have high electric strength and dampen mechanical vibrations excellently.

APPLICATION

1. Potting for electronic device
2. Mechanical cushioning and vibration damping for delicate assembly
3. Binder gel for thermal conductive sheet & EMC shielding sheet
4. OCA for LCD

FEATURE

1. Excellent flexibility
2. Excellent resiliency
3. Excellent temperature stability (-45 °C ~ +200 °C)
4. Excellent electrical properties

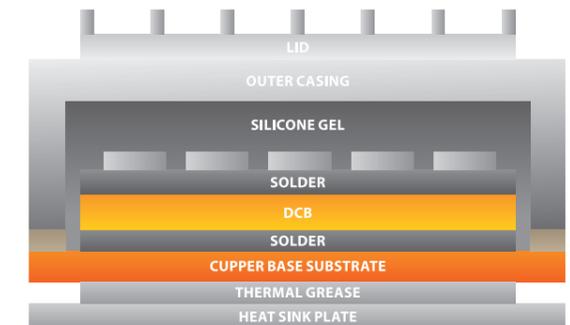
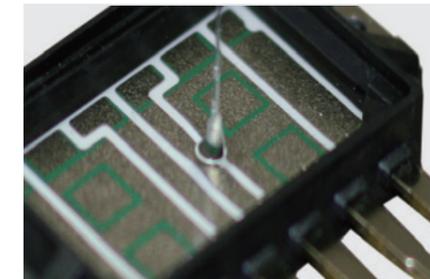


Gel for IGBT / MOSFET

Ever more powerful devices demand higher level of electrical properties and heat stability. KCC Silicone gel will suit the rising demands on insulation resistance, dielectric strength, and tracking resistance. With KCC Silicone gel, you can stay on the top of the market.

FEATURE

1. Excellent temperature stability (-45 °C ~ +200 °C)
2. Flame retardancy (Acquired UL certification)
3. Electrical insulation in harsh conditions
4. Protection on electric parts against humidity and corrosive gas
5. Excellent workability
6. Controlled volatile grade



Product	Color	Component	Viscosity [mPa·s (cP)]	Penetration (1/10mm)	Cure Con.	Pot Life (hour)	UL Certi.	Characteristic
SL5171	Transparent	2 Part	1,000	57	25°C x 24hrs 100°C x 60min 130°C x 30min	2	UL94 V-1	Standard gel

* Penetration [1/10mm] : Quarter cone (ASTM D1403)

Gel for Thermal Pad

Silicone thermal conductive sheet & EMC shielding sheet have good flexibility and offer great adhesion to uneven surface of electronic parts. KCC Silicone binder gels for the applications are low viscosity and have a feature that increases in viscosity and thixotropy by the addition of small amount of filler. And, we also provide the low cyclics content type depending on your application or needs.

FEATURE

1. Excellent workability
2. Easy compounding of filler and pigmentation
3. Less oil bleed after curing
4. Excellent adhesion after curing
5. Excellent electrical properties
6. Excellent temperature stability (-45 °C ~ +200 °C)

Product	Color	Component	Viscosity [mPa·s (cP)]	Penetration (1/10mm)	Cure Con.	Pot Life (hour)	CV grade	Characteristic
SL5100	Transparent	2 Part	950	48	25°C x 12hrs 60°C x 40min 130°C x 20min	2	-	Low oil bleeding
SL5151	Transparent	2 Part	350	110	130°C x 20min	6	Available	Standard gel
SL5152	Transparent	2 Part	400	90	130°C x 20min	2	Available	Relatively toughness
SL5154	Transparent	2 Part	420	140	130°C x 30min	15	Available	Soft, Toughness Long pot life
SL5155	Transparent	2 Part	1,000	55	130°C x 20min	5	Available	Standard gel

* Penetration [1/10mm] : Quarter cone (ASTM D1403)

Silicone Gel for Shock Absorber

Since shock absorber gel has excellent cushioning and moderate resilience, it is applied for several parts and devices.

FEATURE

1. Excellent workability
2. Low damping property in wide frequency range
3. Relatively high rebound resilience in wide temperature range
4. Low tackiness after curing

Product	Color	Component	Viscosity [mPa·s (cP)]	Hardness (Asker C)	Cure Con.	Pot Life (hour)	Characteristic
SL5198	Translucent	2 Part	5,700	30	90°C x 60min	5	High elasticity, Long pot life

Gel for OCA / OCR

OCA/ OCR (Optical Clear Adhesive/ Resin) are used for bonding cover panels and various modules in displays such as LCD, touch panel and OLED for improvement of visibility and luminance of them. KCC Silicone OCA / OCR gels exhibit excellent properties than acrylic type, and realize shorter tack times and low temperature curing processes.

FEATURE

1. Easy to use - Flexible process condition
2. Long-term good tackiness
3. Excellent transparency and yellowing resistance for the long term
4. Excellent reliability - Excellent for harsh testing conditions
5. Low volume shrinkage - Better for large sizes
6. Low dielectric constant - Reduction of noise problem
7. Odorless, No generation of by-products - User / environment friendly

Product	Color	Component	Viscosity [mPa·s (cP)]	Penetration (1/10mm)	Cure Con.	Pot Life (hour)	Characteristic
SL5167	Transparent	2 Part	30,000	85	50°C x 60min 80°C x 20min	2	High viscosity
SL5192	Transparent	2 Part	11,000	100	100°C x 60min 130°C x 20min	1.5	Standard

* Penetration [1/10mm] : 50g Needle type

Gel for Hepa Filter

HEPA Filter requires to have outstanding protection against various chemical substances and excellent sealing performance. KCC Silicone Blue Gel is developed for HEPA filter high grade model. KCC Silicone SL5141 Blue Gel has passed various tests that are required for HEPA filter sealing.

FEATURE

1. Faster curing speed → Excellent workability
2. Excellent resistance against Ozone, H₂O₂(Hydrogen peroxide), and HCHO(Form aldehyde)
3. Lower oil-bleed

Product	Color	Component	Viscosity [mPa·s (cP)]	Penetration (1/10mm)	Room Temp. cure (hour)	Heat Cure (min)	Pot Life (hour)	Characteristic
SL5141	Blue	2 Part	650	80	25°C x 24	70°C x 3	1	Standard

* Penetration [1/10mm] : Quarter cone (ASTM D1403)

Silicone Materials for LED



KCC Silicone LED materials provide not only superior heat and UV stability but also outstanding transparency enhancing durability and performance level of the LEDs and protecting the semiconductor chip against external influences. KCC Silicone LED materials portfolio offers LED encapsulant, silicone reflector, die attach, and adhesive.

APPLICATION

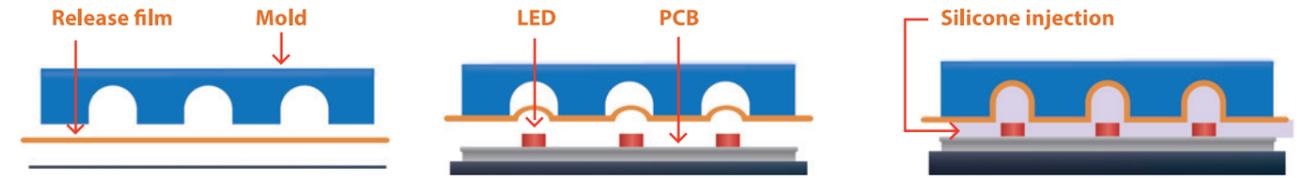
1. LED encapsulant
2. LED lens and optical lens
3. Potting and encapsulating for various optical devices

FEATURE

1. High transparency
2. High heat Resistance
3. Excellent Reliability

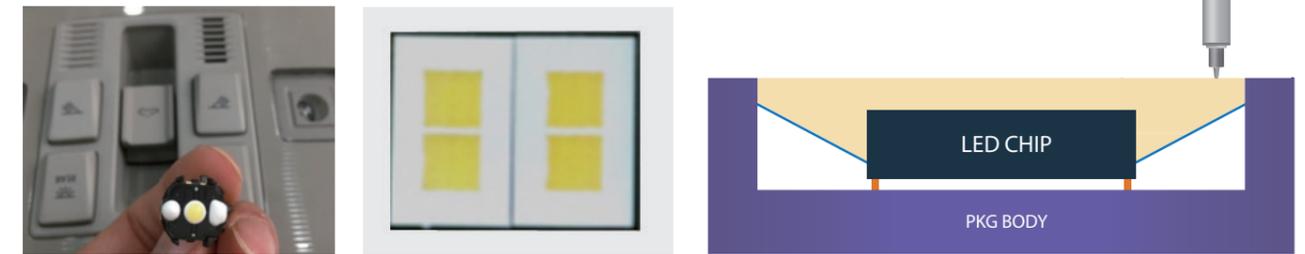
NRI Encapsulant	Primer	White Silicone Reflector
Molding Type		
ENA7005M	SL3111	WSP-3515
	SL3115	SL3838

MOLDING TYPE LED ENCAPSULANT



Product	Color	Mix Ratio	Viscosity [mPa-s (cP)]	Hardness (Shore A)	Transmittance(%) (450nm, 2mm)	Pot Life (hour)	RI
ENA7005M	Transparent	1:1	5,600	70	94	24	1.41
SL3111 (Primer)	Transparent	1:1	30	-	-	48	1.40
SL3115 (Primer)	Transparent	1:1	10	-	-	48	1.40

WHITE SILICONE REFLECTOR



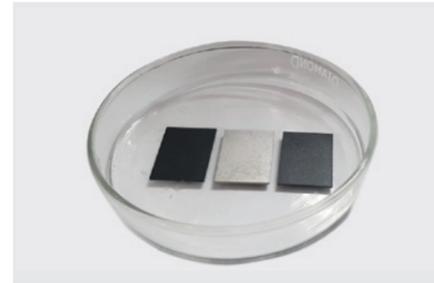
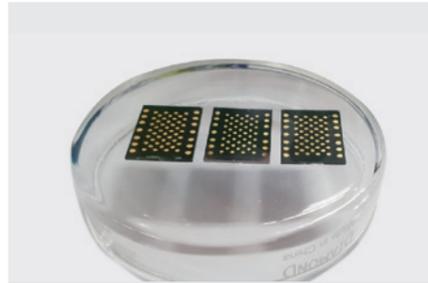
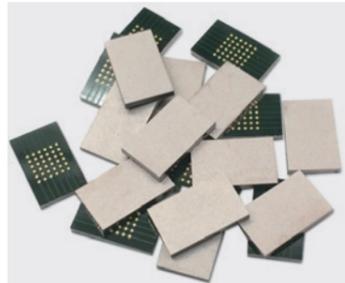
Product	Mix Ratio	Viscosity [mPa-s (cP)]	Hardness (Shore A)	Reflectance (% , 35μm, 450nm)	Characteristic
WSP-3515	4 : 1	15,000	70	99.1	Phenyl low modulus Automotive Dam & Fill
SL3838	10 : 1	2,500	88	98.5	Phenyl High modulus General lighting coating

Die Carrier Silicone for Semiconductor PKG EMI Shielding

KCC Silicone die carrier silicone is a two-component transparent and heat curable addition type silicone. The application is used as semiconductor PKG fixing sheet during EMI(Electro Magnetic Interference) shielding process.

FEATURE

1. Two-component
2. Excellent workability
3. Low volatile contents
4. Excellent electrical properties
5. Excellent thermal stability



Product	Color	Mix Ratio	Viscosity [mPa·s (cP)]	Hardness (Shore A)	Tensile Strength (MPa)	Elongation (%)	Pot Life (hour)
SL3850	Transparent	5:1	2,300	55	7.0	100	1.5
SL3860	Transparent	5:1	3,500	1(18C)	-	-	5.0