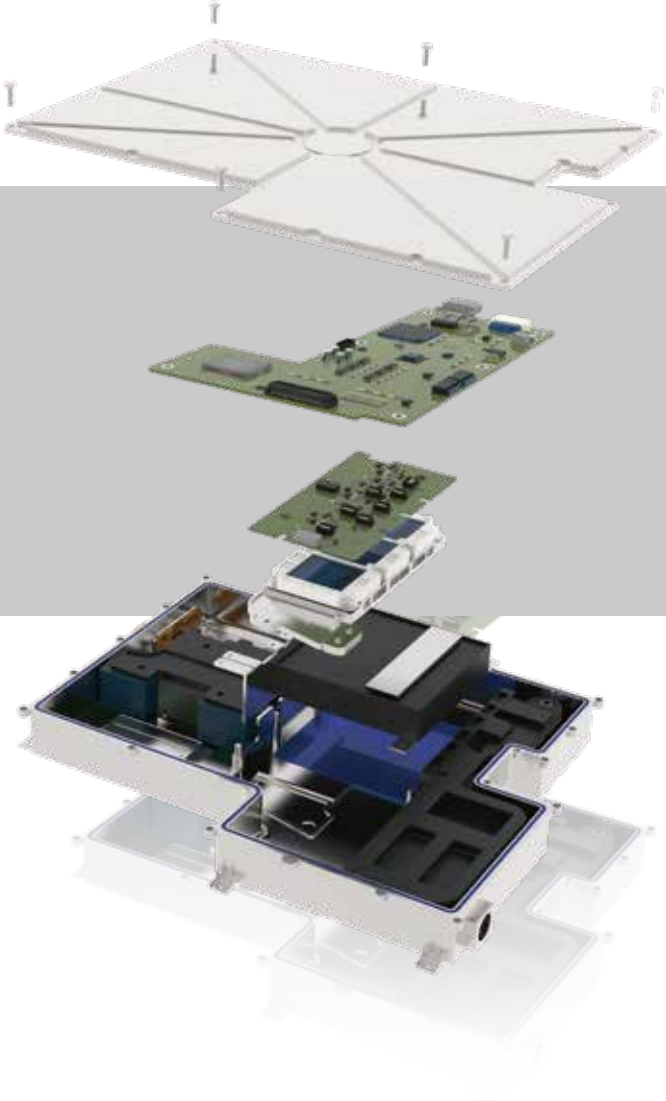
CollTech · MCOTI



MCOTI ADHESIVE SOLUTIONS FOR AUTOMOTIVE ELECTRONIC COMPONENTS

MCOTI Technologies Ltd.

01

ELECTRONIC CONTROL UNITS

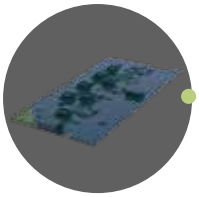
The automotive electronic components market, especially Electronic Control Units (ECUs), has seen significant growth driven by trends like electrification, connectivity, and automation. ECUs play a crucial role in managing various vehicle functions, from engine control to advanced driver assistance systems (ADAS).

Automotive ECU Market – Key Trends & Challenges

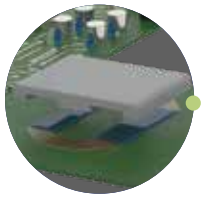
Trends	Challenges	Solutions
 Electrification (EV and Hybrid Boom)	Power consumption and thermal management issues	MCOTI material solutions are designed to meet customer needs and resolve industry challenges through a combination of:
 Intelligence (ADAS & Autonomous Driving)	Rapidly growing computing and memory demand increases system complexity	A BROAD ADHESIVE PORTFOLIO Comprehensive solutions for thermal management, bonding, connecting, protecting, and sealing with customized services, tailored to meet demanding automotive applications.
 Connectivity	Higher cybersecurity and data protection requirements	EQUIPMENT Our solution portfolio also includes dispensing machines and curing equipment. In addition, we partner with a large network of leading equipment suppliers.
 Functional Safety	Long certification cycles and high compliance costs	TECHNICAL SUPPORT Supporting high-volume automotive production with global competency,regional application lab, and technical teams.
 Carbon Neutrality and Green Manufacturing	Pressure to develop low-energy, eco-friendly designs	

Connector Potting

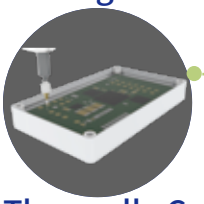
Conformal Coating



Ferrite Core Bonding

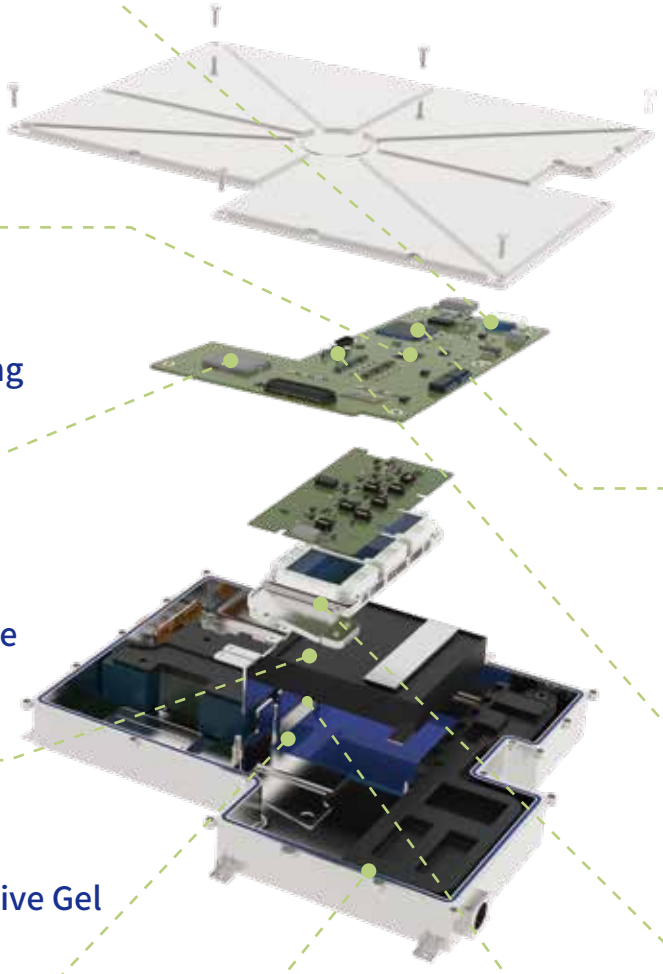


Thermal Conductive Potting



Thermally Conductive Gel

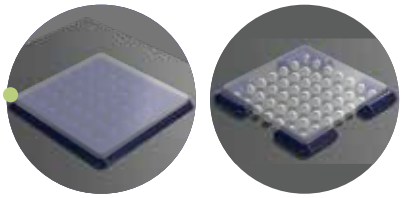
Sealing



Functional Coating

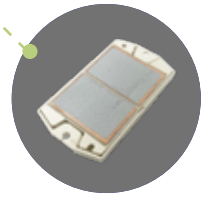
·Thermal conductive insulating coating on MOSFET.
·Insulating coating on small busbar

Underfill/ Reworkable underfill/Edgebonding

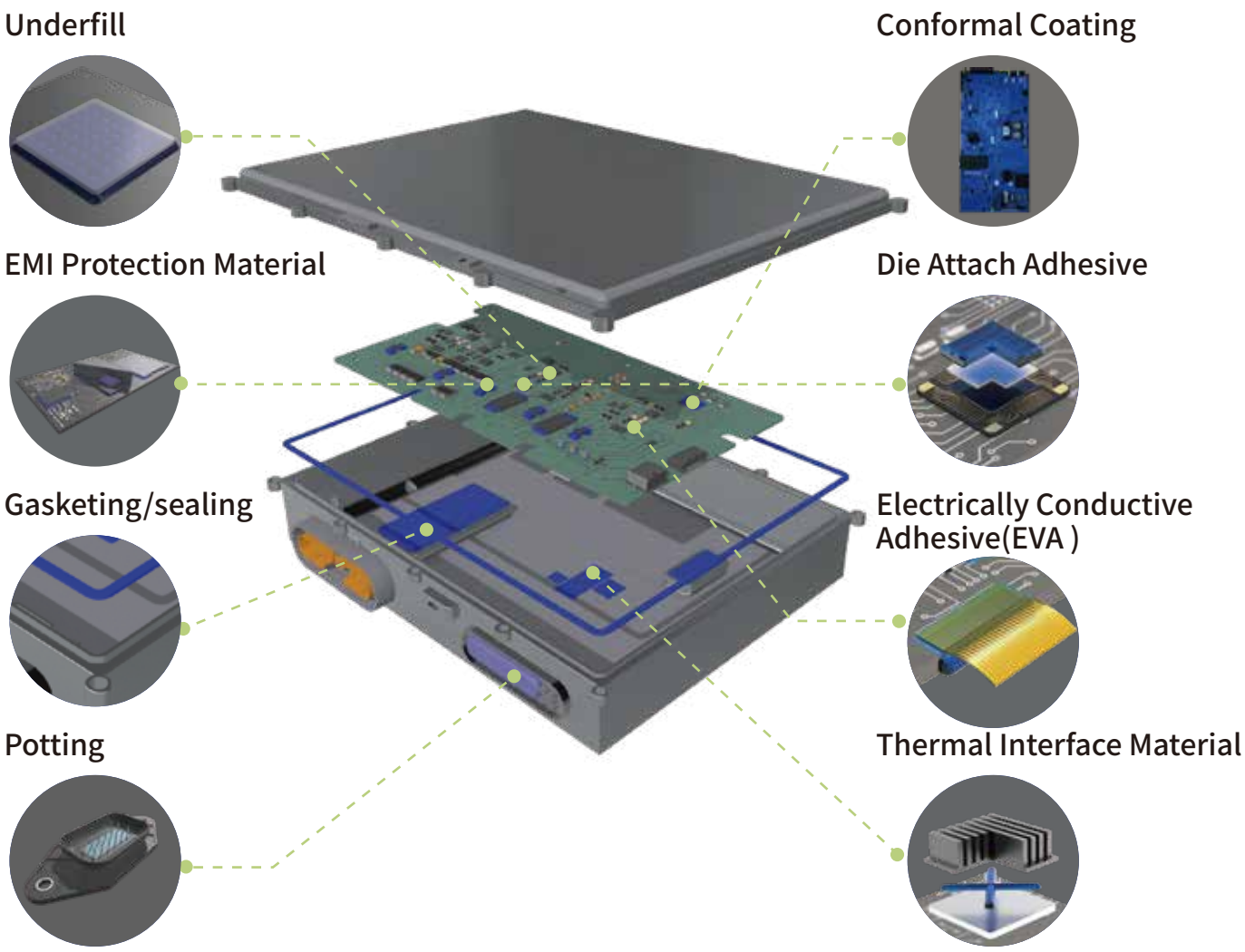


Component Reinforcement

Thermal Grease



EMI Shielding



MCOTI GAP FILLERT

2 component,silicone-based, liquid gap filling thermal interface material with 2.0 to 6.0 W/m.K thermal conductivity. Offers fast and robust dispensing, long working time. It can be cured at room temperature and accelerated by heat.

Products	Appearance	Mix Ratio	Flow Rate g/min	Specific Gravity	BLT μm	Thermal Conductivity W/(m-K)	Features
N-Sil 8742M	Blue/white	1:1	100	2.1	120	2.0	High flow rate High resistivity
N-Sil 8772	Blue/white	1:1	120	3.2	75	3.3	Good comprehensive performance High resistivity
N-Sil GB8772	Blue/white	1:1	100	1.7	35	1.0	High flow rate
N-Sil 8762S	Blue/white	1:1	70	3.4	180	6.0	High thermal conductivity Thermal pad version available

MCOTI THERMAL PAD

A series of thermally conductive silicone pad. It is used to fill and conduct heat conduction in the gap between the heating element and the heat dissipation part, complete the heat transfer between the heating part and the heat dissipation part, and also play the role of insulation, shock absorption, and bonding, which can meet the design requirements of miniaturization and ultra-thin equipment. It is an excellent thermal interface material.

Products	Appearance	Specific Gravity g/cm³	Thickness mm	Thermal Conductive W/(m·k)	Compression ration %
N-Sil SP 8890 -10	White Gray	2.35	0.5-10	1.0 ± 0.3	40
N-Sil SP 8890 -30	White Gray	3.15	0.5-10	3.0 ± 0.3	40
N-Sil SP 8890 -60	White Gray	3.13	0.5-10	6.0 ± 0.3	40

* Thickness can be customized

MCOTI Thermal Conductive Gel

One part , a high performance,silicone thermal conductive gel. It is designed for applications that require high thermal conductivity interface materials and is suitable for rapid equipment construction.High thermal conductivity. The thermal conductive gel features a low bond line thickness (BLT) and is easy to apply. It can be easily removed using alcohol or isopropanol. The material offers high reliability with excellent resistance to thermal cycling. Additionally, it has an ultra-low modulus and generates minimal stress on components.

Products	Appearance	Flow Rate g/min	Specific Gravity g/cm³	BLT μm	Thermal Conductivity W/(m-K)	Features
N-Sil 8745B	Black	60	3.2	70	4.2	High flow rate High reliability
N-Sil 8745	Pink	75	3.4	70	4.6	Printable gel
N-Sil 8762	Light Blue	16	3.5	130	6.0	High thermal conductivity
N-Sil 8780	Light Blue	15	3.3	180	8.0	High thermal conductivity
N-Sil 8745	Black	65	3.5	58	4.8	Easy to apply Easy to remove from the substrates

MCOTI Thermal Grease

a one-part thermally conductive silicone grease. It is non-flowing with highly filled compounds.It is designed for applications that require moderate thermal conductivity. It is easy to be removed from the substrates. Typical applications include thermal management of heat sinks, memory and chip sets, power transistors and CPU etc. Long-lasting high reliability in harsh conditions,ensuring stable product operation in challenging environments.

Products	Appearance	Viscosity Pa.s	Specific Gravity	BLT μm	Thermal Conductivity W/(m-K)	Thermal Impedance °C.cm²/W	Features
N-Sil 8620	Grey	120	3.3	14	2.0	0.09	High reliability Low thermal resistance
N-Sil 8628	Grey	250	3.0	35	3.0	0.18	Best stencil printing performance
N-Sil 8626LS	Blue	120	3.4	7	2.6	0.05	Ultra low thermal resistance
N-Sil 8628LS	Blue	120	3.5	14	2.8	0.07	Low thermal resistance Best comprehensive performance
N-Sil 8650-2	Grey	140	3.6	70	5.5	0.17	Printable High Thermal Conductivity
N-Sil 8608D	White	Paste	2.4	33	1.0	0.28	Easy to store Scratch coating

MCOTI CIP gasketing and FIP gasketing

Liquid gasket sealants provide a simpler solution for sealing complex 3D geometries that are difficult to reliably seal with traditional gaskets. Once dispensed and cured, they can immediately protect sensitive electronic components from dust, moisture, corrosive media, and temperature fluctuations. MCOTI's sealant

materials are optimized for compression set,offering high-temperature resistance, chemical stability, and vibration resistance.
These properties make them an ideal replacement for solid gaskets, particularly in the automotive industry. They are versatile and can adapt to design changes while adhering to various substrates, including metals and plastics

	Products	Chemical	Composition	Curing Condition	Type	Hardness shore	Elongation	Flammability
CIPG	N-Sil 8901M	Silicone	1C	UV curing/UV curable	Non-Foam	A30	> 400%	UL 94 HB
	N-Sil 8063G	Silicone	2C	Heating curing/IR curable	Non-Foam	A30	> 250%	UL 94 HB
	N-Sil 8068-HS01	Silicone	1C	Heating curing/IR curable	Non-Foam	A40	> 350%	UL 94 HB
	N-Sil 8068-HS12	Silicone	1C	Heating curing/IR curable	Non-Foam	A15	> 400%	UL 94 HB
	N-Sil 8069-HS51	Silicone	2C	Heating curing/IR curable	Foam	OO 65	> 100%	UL 94 HB
FIPG	N-Sil 8300	Silicone	2C	Heating curing/IR curable	Non-Foam	A40	> 600%	UL 94 HB
	N-Sil 8180	Silicone	1C	Heating curing/IR curable	Non-Foam	A40	> 380%	-

MCOTI EMI Shielding gasketing

Under certain curing conditions, FIP (Form-In-Place) electrically conductive silicone adhesives can be formed into fine gaskets with advantages such as: good electrical conductivity, excellent electromagnetic shielding performances, etc. It’ s an excellent solution for the housing of electronic devices to meet electromagnetic shielding, earthing and moisture or dust proofing requirements.

Product	Conductive Filler	Curing Mehod	Elongation at Break	Features
N-Sil 8356	Ni/C	Heat Curing	>150%	• Easy to dispense • Low-temperature curing • High electrical conductivity • Resistant to ozone and mold
N-Sil 8360/ N-Sil 8362	Ni/C	Heat Curing	>200%	• Excellent electromagnetic shielding performance with high electrical conductivity • Capable of forming on flange areas as small as 0.5 mm
N-Sil 8415	Ni/C	Moisture Curing	>150%	• RT curing • Excellent electromagnetic shielding performance • Superior sealing properties

MCOTI Conformal Coating

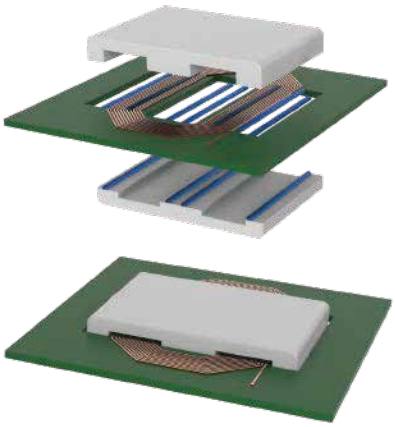
N-PU 5200H is a midium-high viscosity, one-component, UV curing conformal coating specially designed for protecting circuit boards. It has high viscosity, is economical and environmentally friendly, can spray thicker films, and is suitable for various spraying processes. N-PU 5200H has excellent protective effects.

Chemical Type		Acrylic acid
Composition		One-component
Color		Light yellow
Density @ 25°C	mPa • s	70-150
Density	g/cm3	~1.1±0.05
Curing conditions	UV	60-2000 mJ/cm2
Hardness	GB_T 67395	HB
Dielectric strength GB_T 1408.1	KV/mm	60
Flammability	UL-94	V0

MCOTI Bonding Solution for Ferrite Core

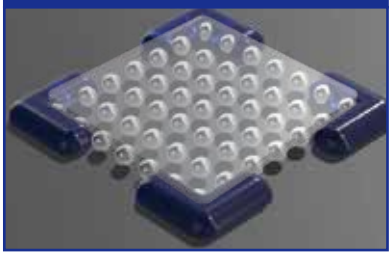
In the field of power electronics, there is an increasing demand for high efficiency and power density. In addition, there is a desire for high frequency magnetic components to be as small as possible and to be integrated into electronic circuits and devices. As a result, planar transformers are being used in an increasing number of industries that use conventional wire-wound transformers. MCOTI has designed and developed a range of adhesive for the bonding of ferrite cores to meet the diverse application needs of our customers. We offer uniform size distribution, with tolerances of up to +2µm for most microbead, maintaining consistent and uniform gaps and a vailability of a wide rang of sizes (0.5 - 250µm).

参数	EW 6315WO -1M	EW 6315WS -1M
Rheology	Viscosity: 42,000 cp@ 25°C TI: 5.6	Viscosity: 42,000 cp@ 25°C TI: 5.6
Curing Schedule	10min @ 150 °C	10min @ 150 °C
Tension Strength	47.6MPa @ 25°C 22.6 MPa @ 100°C 4.0 MPa @ 150°C 2.0 MPa @ 200°C	49.2MPa @ 25°C 20.1 MPa @ 100°C 2.9 MPa @ 150°C 1.4 MPa @ 200°C
Hardness Shore D	90	90
Tg °C	109	109
CTE ppm*K-1	CTE below Tg---51 CTE above Tg---173	CTE below Tg---51 CTE above Tg---173
ead Size & Content	Without bead	With beads 2-4 % by both of weight and volume



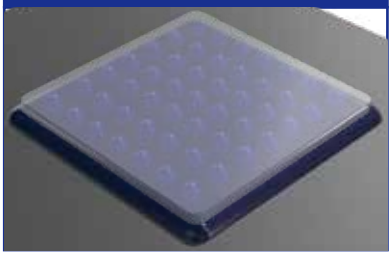
MCOTI Edgebonding and underfill

Edge Bonding

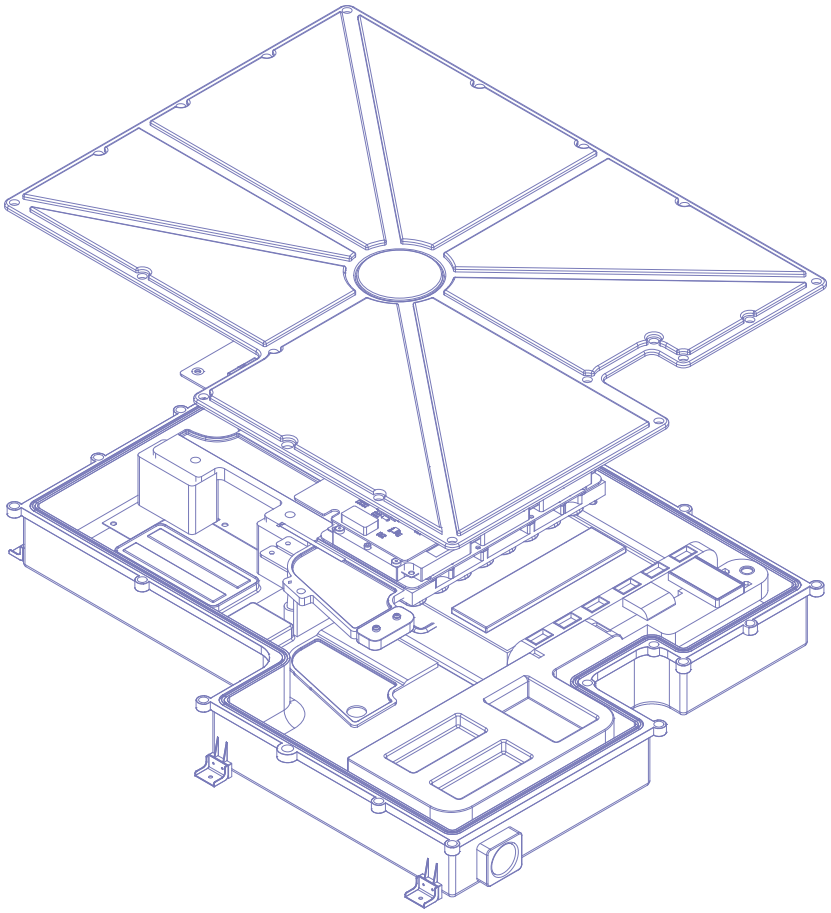


Partial Underfill

Full Underfill



Products	Function	Color	Viscosity@25°C mPa.s	Curing Condition	Tg °C	CTE ppm/K	Storage Modulus GPa
EW 6364	Underfill	Black	3000	10mins@150°C	147	25/94	5.5@25°C 0.4@250°C
EW 6735C	Underfill	Black	7500	10mins@150°C	147	24/82	/
EW 6300N-40.1	Underfill	Black	2000	10mins@150°C	110	54/134	/
EW 6300HVN-11AF	Edgebond	Black	45,000	10mins@150°C	98	62/175	3.7@25°C



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