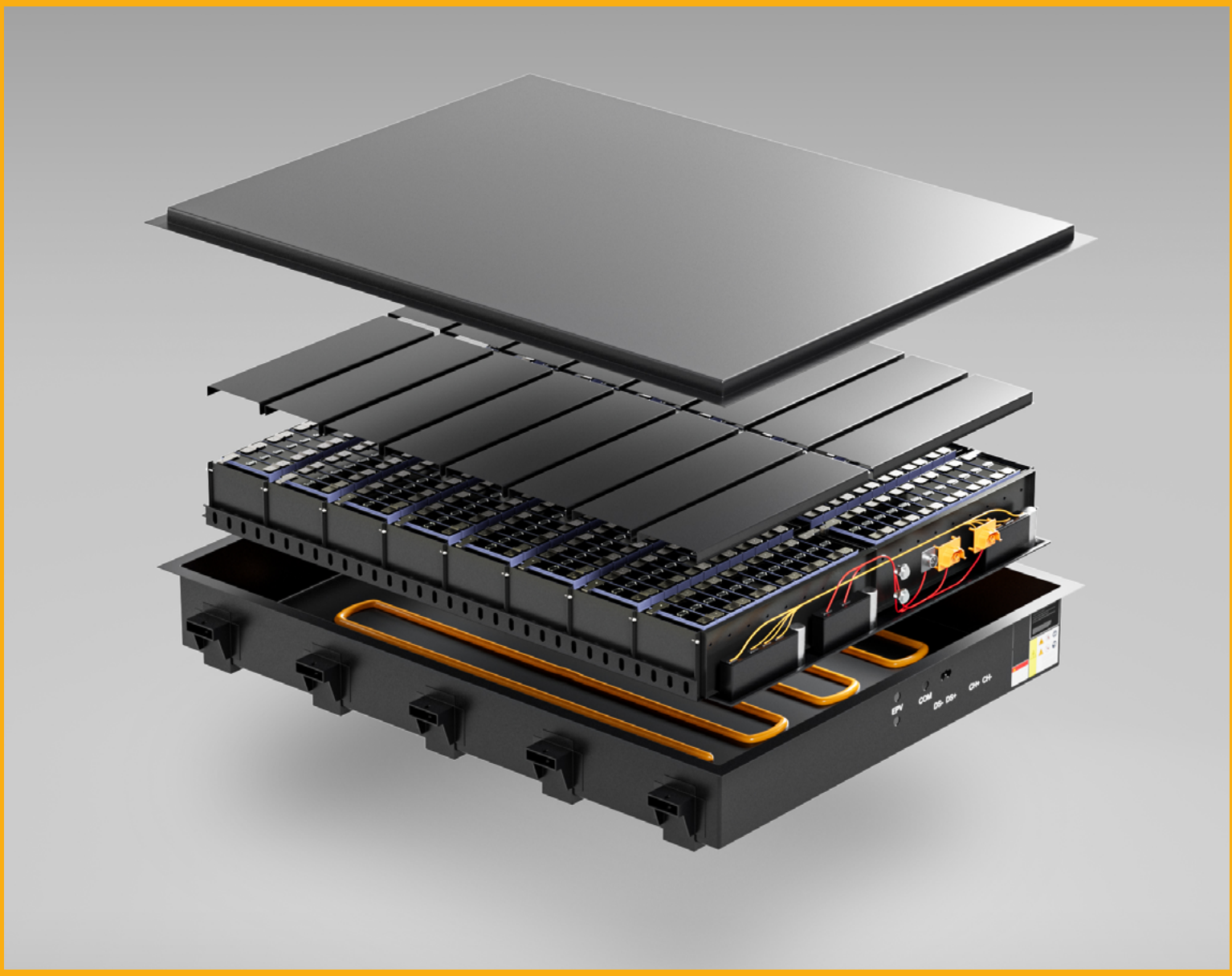


TEMPERATURE MANAGEMENT BEYOND THE EXPECTED BATTERY THERMAL INTERFACE MATERIALS

BUILDING TRUST

THERMALLY CONDUCTIVE GAP FILLERS

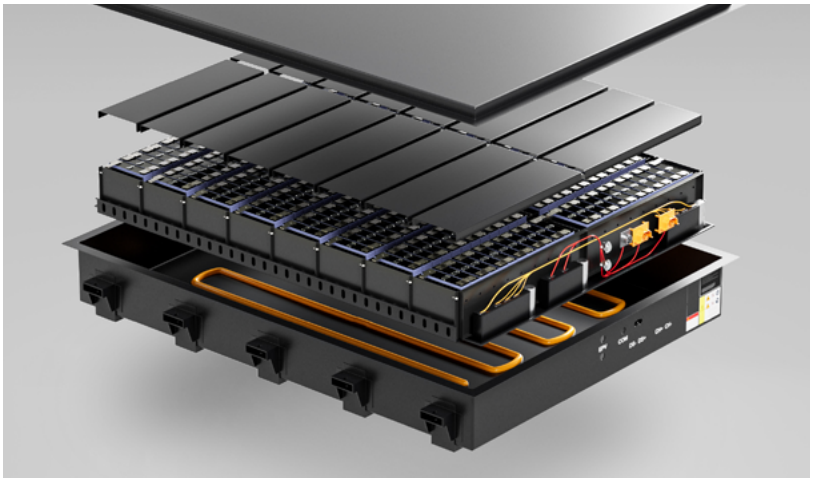
MOVING TIM TECHNOLOGIES FORWARD WITH SIKA

CHARGE YOUR AMBITION WITH SIKA. Using our long-term experience in dielectric potting, Sika has developed thermal interface materials for battery systems, that ensure optimal heat transfer in battery packs and modules.

The SikaBiresin® TC series are used for thermally Conductive (TC) gap filling applications. It also serves as a functional interface in the battery arrays and works interactively to provide heat transfer for active temperature control systems of the battery packs.

Products are available in both silicone and silicone-free formulations. Performance levels are available in the range of up to 3.0 W/mK, products are room temperature cured and glycol resistant, and meet the UL94-V0 standard.

"On-demand" adjustable curing processes add value to conventional assembly processes. Additionally, thanks to low compression force and viscosity, SikaBiresin® TC gap filler allows for easy assembly combining with low abrasion. Moderate adhesion strength also allows for disassembly and serviceability.



Thermal management for modules with SikaBiresin® TC gap filler

SikaBiresin® TC gap filler for easy assembly and disassembly

- HIGH HEAT TRANSFER
- UP TO 3.0 W/m.K
- LOW COMPRESSION FORCE
- EASY DISASSEMBLY & SERVICEABILITY

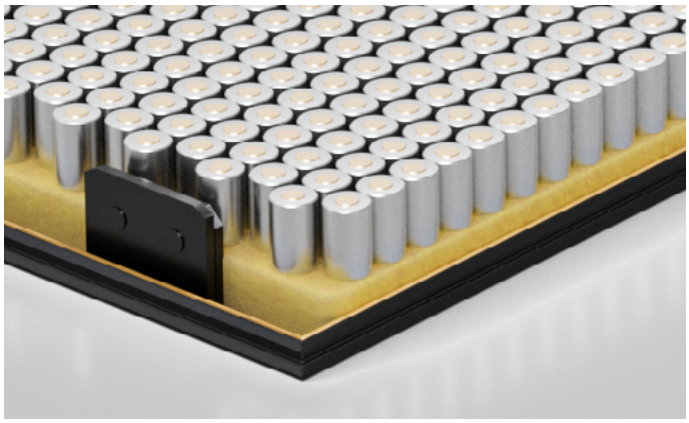
THERMALLY CONDUCTIVE ADHESIVES

ENHANCED BODY STRUCTURE WITH SIKA TCA SOLUTIONS

THE RIGHT TECHNOLOGY. Thermally conductive adhesives (TCA) offer added benefits for manufacturers seeking to meet future requirements. As manufacturers transition to Cell-to-Pack designs in order to improve the stiffness and torsional characteristics of the vehicle's body structure, bonding with heat-conductive adhesives will become more common.

Sika's high-performance bonding solutions offer thermal-conductivity and electrical isolation characteristics for packing the cell arrays inside the modules or packs.

Sika TCA offers thermal conductivity performance from 0.8-2.0 W/m.K as well as high strength and excellent adhesion; some without surface pre-treatment of metals. Some products meet the UL94-V0 standard and ease of use in the application, whether applied manually or with standard automated equipment.



Sika TCA Series enhance heat transfer and make modules or packs stronger and lighter

STRUCTURAL

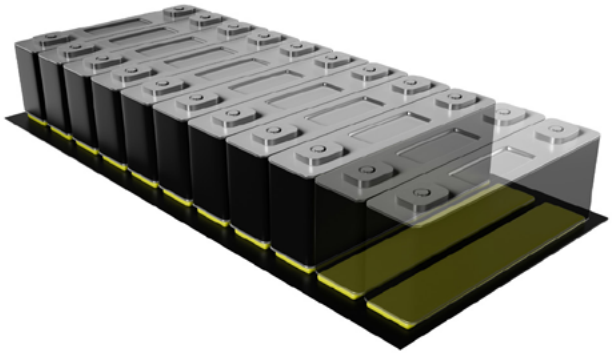
Heat transfer and electrical isolation bonding solutions for packing the battery cells inside the module or pack.

UP TO 2.0 W/m.K

thermal conductivity range, excellent adhesion and meets the UL94-V0 standard.

HIGH STIFFNESS

and torsional character enhancement for the vehicle as battery design transitions to Cell-to-Pack designs.



Structural cell fixation with thermally conductive SikaForce® TC adhesive

With the TIM series, Sika offers the broadest range of products for new bonding solutions and for thermal management that overcome challenges in diverse battery storage systems designs. Accommodation of the requirements of the new CELL-TO-PLATE BONDING or CELL-TO-TRAY trends, as well the current MODULE TO TRAY ASSEMBLY, are answered readily with all products, also offering flexibility to the manufacturing process and throughput targets.

Gap filler	Chemical base	Characteristics	Thermal Conductivity W/m.K	Density g/cm^3	Applications
SikaBiresin® - TC455	2-component STP	– Low compression forces – Low adhesion properties for easy disassembly.	2.2	2.0	Module to cooling plate gap filler
Sikasil® 961 TC	2-component silicone	– High temperature resistance – High dielectric properties	2.0	2.0	Module to cooling plate gap filler
Thermally conductive adhesive	**Chemical base**	**Characteristics**	**Thermal Conductivity W/m.K**	**Lap shear strength MPa**	**Applications**
Sikaflex® 961 TC	2-component STP	– Excellent adhesion to a variety of surfaces – UL94 V0	1.8	2.0	PET coated cell to cooling plate bonding
SikaForce® 325 CB	2-component Polyurethane	– High strength – UL94 V0	1.2	10	Cell to cooling plate bonding
SikaForce® 325 L60	2-component Polyurethane	– Long open time – High elongation – UL94 V0	1.2	10	Cell to cooling plate bonding (cell to pack)
SikaFast® TC 606	2-component acrylate	– Fast curing – High strength – Excellent adhesion to a wide range of materials	1.6	10	Cell to cooling plate bonding

WHILE THE LANDSCAPE OF E-MOBILITY WILL CONTINUE TO EVOLVE, APPLICATIONS IN SEALING AND BONDING WILL ALSO CONTINUE TO CHANGE, SIKA'S CONSTANT FOCUS ON TECHNOLOGY TRENDS WILL ENSURE OUR SOLUTIONS REMAIN VALUABLE TO OUR CUSTOMERS.

MOVING INDUSTRIES FORWARD

COMBINING GLOBAL REACH WITH LOCAL EXPERTISE

WHO WE ARE

Sika is a specialty chemicals company with a globally leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing, and protection in the building sector and industrial manufacturing. Sika has subsidiaries in 102 countries around the world and, in over 400 factories, produces innovative technologies for customers worldwide. In doing so, it plays a crucial role in enabling the transformation of the construction and transportation sector toward greater environmental compatibility. With more than 34,000 employees, the company generated sales of CHF 11.76 billion in 2024.

FOR MORE INFORMATION:
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