WACKER

Press release

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Battery Show Europe 2025
WACKER presents new gap filler for electromobility

- The product ensures efficient heat dissipation from power electronics components in electric and hybrid vehicles.
- Extremely heat-resistant material that easily withstands temperature fluctuations between -40°C and +150°C.
- Meets all relevant automotive industry quality standards and specifications.
- With the new gap filler, WACKER continues to expand its portfolio of thermal interface materials.
- WACKER also presents a new ceramifying silicone rubber for the insulation of busbars in EV batteries

Munich – WACKER is all set to unveil a selection of silicone products for e-mobility applications at this year's Battery Show Europe. The company will particularly focus on a new thermally conductive gap filler for applications in power electronics. Commercially available as SEMICOSIL® 9649 TC, this silicone product can withstand high thermal stresses. It ensures that the electronic components have a lasting bond with a vehicle's active and passive cooling systems. The heat generated when a vehicle is in operation is thus efficiently dissipated. The Battery Show Europe will be held in Stuttgart, Germany, from June 3 to 5.

SEMICOSIL® 9649 TC was specifically developed for power electronics applications in electric and hybrid vehicles. The silicone-based compound consists of a 2K system that cures at room temperature through an addition

reaction to form an adaptable and repairable elastomer. SEMICOSIL® 9649 TC is an electrically insulating product with a thermal conductivity of approximately 4 W/mK.

Thermal resistance tests have shown that the product is particularly robust. For instance, SEMICOSIL® 9649 TC can consistently withstand temperatures of up to 150 °C without any significant change in its thermal conductivity or other material properties. The product can also easily deal with thermal shocks that involve rapid temperature changes ranging from -40 °C to+150 °C. Thermal resistance measurements show that a bond made with SEMICOSIL® 9649 TC between power electronics components and cooling systems remains intact even under such conditions. The thermal conductivity of the gap filler thus remains virtually unchanged even under dynamic thermal stressing.

SEMICOSIL® 9649 TC is a non-sag material before cure. Its viscosity decreases with increased shearing, for example during mixing and metering. Its shear-thinning property is adjusted so that the compound can easily be fed by machine and applied as a bead. Processors can thus achieve a high metering rate and very high dosing accuracy.

In practice, a dispenser is used to apply the gap filler to the heat sink whereupon the power electronics circuit board is then pressed. During compression, a continuous film forms that conforms snugly to the surfaces of the two joining parts. In this way, surface irregularities and tolerances can be evened out perfectly. The film hardens between the joining parts to form a thermally conductive layer, which, thanks to its soft and flexible consistency, also absorbs vibrations and impacts. The product meets all relevant automotive industry quality standards and specifications.

Flame-resistant silicone elastomer for busbars in EV batteries

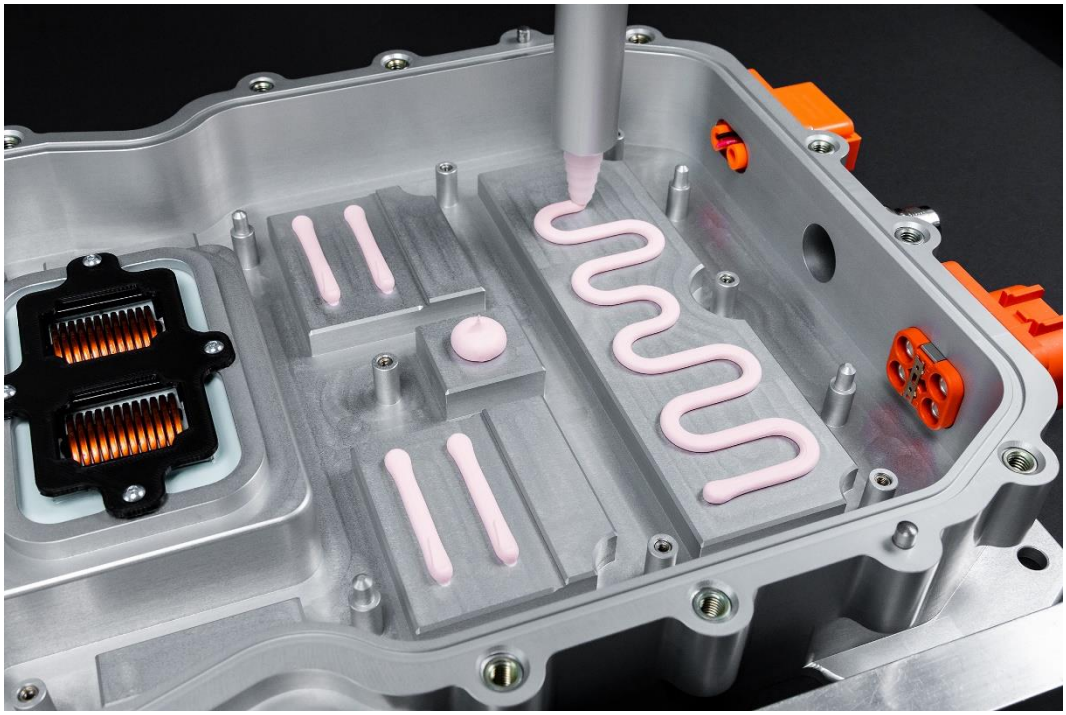
At the Battery Show, WACKER is also presenting a new product for busbars in high-voltage batteries. ELASTOSIL® R 531/60 is used to reliably insulate such components in electric vehicles. The product is extrudable which makes sheathing busbars particularly cost-effective. Moreover, the silicone rubber also improves safety in electric vehicles. In the event of a fire, the product ceramifies, enveloping the busbar with a stable ceramic layer that provides electrical insulation and thus prevents an undesirable short circuit.

Silicones for electromobility

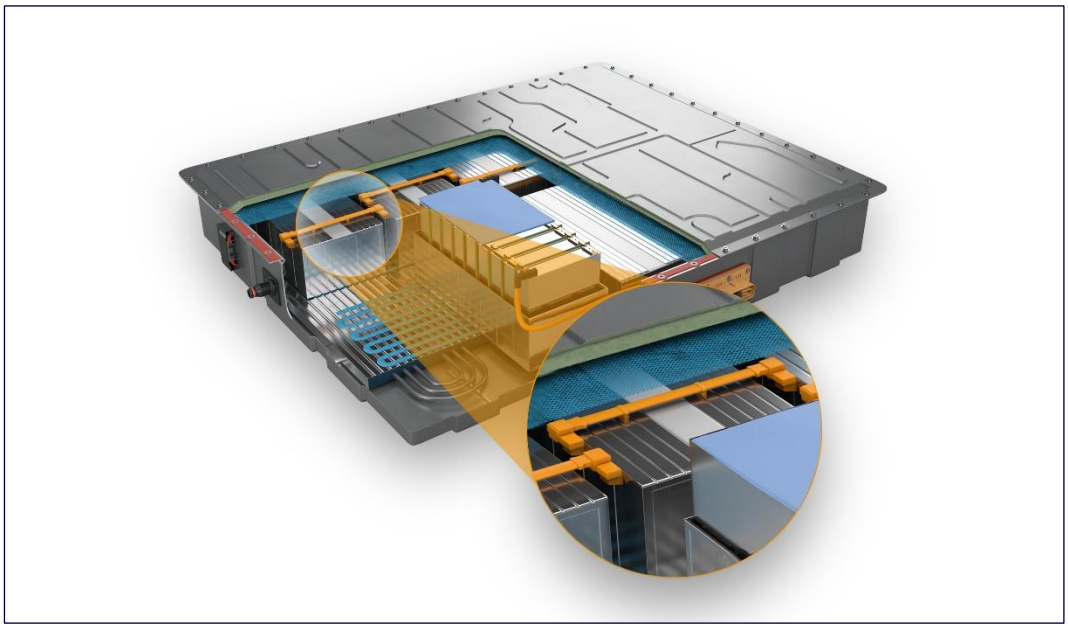
With its ELASTOSIL®, SEMICOSIL® and WACKER Silgel® brands, the chemical company offers a wide range of products and solutions for the automotive industry and electromobility. The products presented at the Battery Show Europe 2025 include thermally conductive silicone compounds for thermal management in

electric vehicles, silicone rubber for high-voltage cables and electrical connectors, and silicone-based products for sealing fuel cell systems.

Visit WACKER at the Battery Show Europe 2025 in Hall 10 at Booth C-50.



WACKER is all set to present a new thermally conductive gap filler for power electronics applications at this year's Battery Show Europe. Commercially available under the brand name SEMICOSIL® 9649 TC, this silicone product can withstand high thermal stresses. It ensures that the heat generated when operating the vehicle is efficiently dissipated to the cooling elements. (photo: WACKER)



At the Battery Show Europe 2025, WACKER will be unveiling ELASTOSIL® R 531/60 for the first time. The extrudable silicone rubber is used to reliably insulate busbars in high-voltage batteries (see enlarged section). In the event of a fire, the silicone ceramifies, enveloping the busbar with a stable ceramic layer that continues to electrically insulate the component. This protects the battery from a short circuit even in the event of a fire. (Graphic: WACKER)

Note: All photos are available for download at: www.wacker.com/pressreleases.

Additional information

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The company in brief:
WACKER is a global company with state-of-the-art specialty chemical products found in countless everyday items, ranging from tile adhesives to computer chips. The company has a global network of 27 production sites, 21 technical competence centers and 46 sales offices. With around 16,600 employees, WACKER generated annual sales of around €5.7 billion in fiscal 2024.

WACKER operates through four business divisions. The Silicones and Polymers chemical divisions supply products (silicones, polymeric binders) for the automotive, construction, chemical, consumer goods and medical technology industries. Biosolutions, the life sciences division, specializes in bioengineered products such as biopharmaceuticals and food additives. Polysilicon produces hyperpure polysilicon for the semiconductor and photovoltaic industries.

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