

Safe and efficient solutions for the automotive industry: Wevo silicones for modern power electronics

Ostfildern-Kemnat, Germany. Higher charging performance and the increasing relevance of bidirectional charging are key priorities in the ongoing development of on-board chargers (OBCs) for electric vehicles. Thermally conductive silicone potting compounds, gap fillers and gels from WEVO-CHEMIE GmbH do more than simply enable the thermal management that is essential for this purpose. WEVOSIL products built from 3rd-generation materials enable fast cycle times that lead to efficient serial production. Moreover, these two-component silicones can be customised in a number of ways, for example in terms of flow behaviour, pot life, hardness and basic adhesion. Wevo products also provide tailor-made solutions for power electronic applications such as DC/DC converters.

Very high operating temperatures are not uncommon in modern OBCs. Potting compounds, gap fillers and silicone gels from Wevo help sensitive components function reliably over their entire life cycle. The materials can be tailored to specific customer and component requirement profiles on request.

Safe operation: heat dissipation and adhesion

To permit fast charging, the thermal conductivity of Wevo's two-component silicones can be adjusted over a wide range: from 1 W/m·K for potting compounds (e.g. WEVOSIL 22102 FL) to highly thermally conductive gap fillers with 4 W/m·K (e.g. WEVOSIL 26040 FL).

At the same time, due to their pronounced tackiness, Wevo silicone gels for electronic components adhere very well to the housing, even when fully cured – despite the high operating temperatures.

Efficient serial production: optimised flow behaviour

The silicone-based potting compounds, gap fillers and gels can additionally be customised with regard to flow behaviour, in order to improve heat removal of inductive components while ensuring an efficient production process. Reliable filling is then guaranteed, even in the smallest gaps.

Wevo silicones for DC/DC converters

The specially optimised WEVOSIL products also pave the way for technological advances in DC/DC converters, which today are increasingly integrated into larger units of the electric drive train such as the HV battery, the main inverter or the OBC.

To provide the best possible solution for modern power electronic components, the Wevo product portfolio also includes polyurethanes and epoxy resins, which Wevo's developers can likewise adapt to component- and customer-specific requirements on request.

Image description and source

Wevo materials enable efficient thermal management for on-board chargers (Image source: WEVO-CHEMIE GmbH).

(Please note that the image may only be used in the context of this press release).

About Wevo

WEVO-CHEMIE GmbH is an independent manufacturer in the field of customised potting and casting compounds as well as adhesives and sealants based on polyurethane, epoxy and silicone – primarily for use with electrical and electronic components. Wevo products protect sensitive components against chemicals, vibration, foreign matter, dust, humidity and high temperatures. We supply to more than 1,250 customers in over 50 countries from our headquarters near Stuttgart, Germany, and through companies in Asia, China and the USA.

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