

COATED BUSBARS: PREVENT SHORT CIRCUITS

Busbar or HV cable? – Innovation in e-mobility is driven by this design choice. Busbars can significantly enhance the performance of electric vehicles. But a busbar is only as good as its insulation. Silicones can be a game-changer here.

Busbars have various advantages:

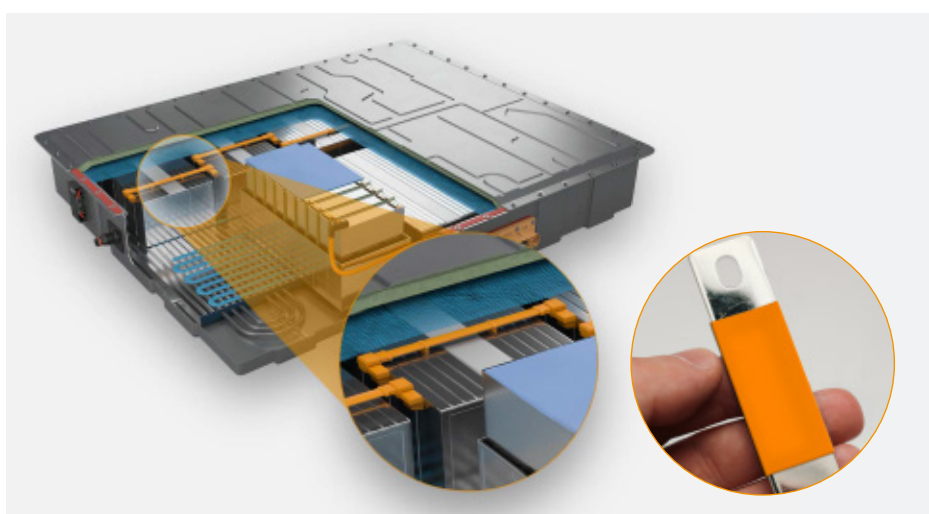
- They are suited for automated production.
- Large cross-sections reduce electrical losses.
- Higher voltages are possible (up to 1,000 V).
- Charging time can thus be reduced.

But busbars require high-performance insulation materials:

- The higher the voltage, the higher the risk of overheating neighboring components.
- Bending busbars is challenging: the insulation must not be damaged.
- This is especially important at the points of greatest bending or torsion.

Busbar insulation with ELASTOSIL® R 531/60

We have specially developed a high-consistency rubber (HCR) silicone for insulating busbar systems. In the event of thermal runaway, ELASTOSIL® R 531/60/E/2003 forms a ceramic-like layer with high insulation resistance and good mechanical stability to prevent a short circuit.



Coating with ELASTOSIL® R 531/60 insulates the busbar and prevents short circuits.

Technical data	
Appearance	orange
Hardness Shore A	60
Density	1.36 g/cm ³
Tensile strength	6.5 N/mm ²
Elongation at break	400%
Tear strength	17 N/mm

Packaging

- 540 kg cardboard packaging
- Samples available upon request

Processing

- Extrusion
- Cure conditions: 10 min / 135 °C in press
- Shore hardness: 60 ShA
- Shelf life: 180 days

Key features

- Better cold temperature flexibility at -40 °C compared to thermoplastics (PA)
- Excellent dielectric isolation
- Heat resistance (240 h / 205 °C, 3000 h / 180 °C)
- No cracks, ruptures or other damage after notched bar impact test
- Flame retardant / ceramifying in the event of thermal runaway; forms a stable ceramic that prevents short circuits
- Bendable
- Ceramifying

Download

Here you can access the technical data sheet and the safety data sheet:



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