



**Press release 1/2019**

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Frenzelit GmbH: Textile solution for burst and contact protection in electric vehicles

## **Protection from electric shock in the event of an accident**

**In cases of accidents involving electric cars, the risk of electric shock from voltage carrying parts should be zero. Frenzelit GmbH has developed a textile sheath for the DC voltage converter casing to protect against this risk – thermoREFLEX® protective cover.**

Burst, fire and contact protection are sensitive topics in electric vehicle design. All parts that carry high voltages must also be secured in the event of an accident to protect passengers and rescue teams from the risk of fire or electrocution. This aspect is crucial to the approval process for new electric vehicles.

### **Protective sheath made of aramid fibers for DC/DC converters**

Frenzelit GmbH offers carmakers a solution for burst and contact protection that encloses the vehicle's DC voltage converter in thermoREFLEX® protective cover, thus preventing the risk of electric shock in the event of an accident. Following a collision, the system could still carry live voltage in some circumstances. Although fuses are triggered within milliseconds, power components might still be live and contact with them could be potentially deadly.

The protective sheath is made of aramid fabric (with cut-outs for power cables, cooling ducts and anchor points) that features a special coating. Due to their high tensile strength, aramid fibers are ideally suited for preventing flying debris from piercing the fabric sheath. To compensate for the woven fabric's poor resistance to weathering, Frenzelit used its expertise in technical textiles and high-temperature-resistant insulation to develop an additional UV and moisture-resistant coating that achieves a high level of dielectric strength. The insulation resistance is 10 megaohms - even after being subjected to a range of weathering processes. It was tested for resistance to a variety of factors including climatic change, climatic resistance, salt spray, chemical resistance, high and low temperature cycles, thermal shock and moisture.



**The thermoREFLEX® protective sheath is suitable for all electric cars**

The thermoREFLEX® protective sheath for the DC/DC converter played a key role in helping a manufacturer obtain approval for one of its vehicle series. The textile protection solution Frenzelit developed featuring contact and burst protection to increase safety is generally suitable for all electric cars.

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**Images:**



Image 1: Protection against the risk of electric shock in the event of accidents: thermoREFLEX® protective sheath made of aramid fibers from Frenzelit.  
Image: © Frenzelit GmbH



### **About Frenzelit**

Frenzelit GmbH develops, produces and sells gaskets and gasket materials, technical textiles for insulation, gaskets and filtration as well as expansion joints for plant engineering. Around 500 employees work at the production sites in Bad Berneck and Himmelkron, Germany. The family-owned company from Upper Franconia is internationally active and has a global presence with a location in North Carolina, USA as well as subsidiaries and sales offices in the Czech Republic, China, India and Dubai. Frenzelit has been a successful company since it was first established in 1881. It is certified according to ISO 9001 and IATF 16949 (Quality Management), ISO 14001 (Environmental Management) as well as ISO 50001 (Energy Management).  
Further information: [www.frenzelit.com](http://www.frenzelit.com)

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**Thank you!**

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