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PRESS INFORMATION

EMS-GRIVORY triple prize winner at the SPE-Awards 2024

At the 22nd SPE Automotive Award Night of the "Society of Plastics Engineers", EMS-GRIVORY was once again among the winners - three times! The award-winning applications made from EMS high-performance polymers demonstrate once again how innovative solutions are created in close cooperation with customers, enabling them to save costs and weight.

At the 22nd SPE Award Night on June 28, 2024 in Bonn (Germany), the coveted SPE Automotive Awards for the most innovative polymer applications in the automotive industry, were presented once again. This time around, three applications made from EMS materials were awarded the coveted prizes.

Battery management module for electric cars
A battery management assembly for the high-voltage battery was developed for the Mercedes-Benz EQE. This module is installed in the battery box and regulates the flow of current in the vehicle via integrated temperature sensors, switching relays and current conductors.
The two orange covers are made of Grilon BG-30 FR. This material is used due to its stiffness, high flowability, flammability in accordance with UL 94 V0 and high dielectric strength. The over-molded busbars are made from impact-resistant Grilon TSGZ-15. The high elongation at break values of this EMS specialty polymer prevent cracking caused by the different thermal expansion of copper and polymer material at temperatures between -40°C and +120°C.

The covers of the busbars are made of Grilon TS V0. This non-reinforced specialty polymer allows components to be clipped together fully automatically. The extruded busbars are coated with a layer of Grilamid XE 3817, which was specially developed for adhesion to metals. Thanks to the very good elasticity and adhesion of the EMS specialty polymer, no detachment occurs during the 3D forming process. The material also has excellent resistance to ageing over 3,000 hours at up to 125°C. All components are mounted on a 1.2 m long structural bracket, which is made from very easy-flowing Grilon BG-30 S.

Diesel return line for heavy-duty trucks
Scania has developed an innovative return line for V8 diesel engines made of high temperature resistant Grivory HTV-4H1. Weight savings of 85% with an unchanged long working life are achieved by replacing aluminum with this polymer. In this way, the component weight has been reduced from approx. 2.3 kg to only 0.35 kg. Each Scania V8 engine has two of these return lines, providing savings potential of approx. 4 kg of empty vehicle weight. The return lines are designed in such a way that they ensure a 20-year maintenance-free working life of the truck under temperatures fluctuating between -40°C and +100°C.

High-voltage connector for electric cars
A highly innovative high-voltage connector has been developed for contacting high-voltage cables up to 1,000 V in electric cars. These high-voltage connectors are currently the smallest and most compact type of connector available on the market for cables with cross-sections of up to 95 mm^2. They are in-

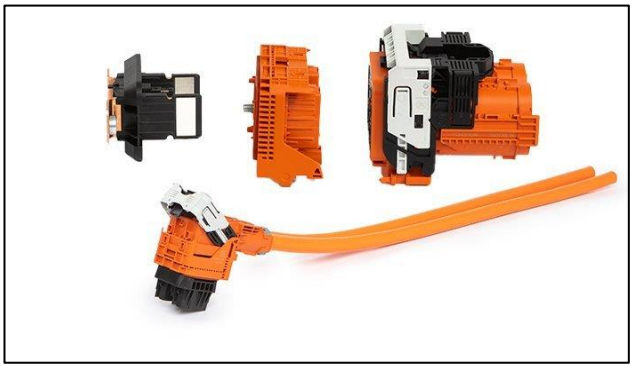
stalled in close proximity to the motor at temperatures from -40°C to 140°C in battery-powered electric vehicles (BEV) and plug-in hybrid vehicles (PHEV).

EMS' polymer Grilon XE 16076 with 60% glass fiber reinforcement, developed especially for this application, has 40% better flowability than conventional PA6 grades. The coloring remains color fast even after 1,000 hours of storage at 150°C and allows easy laser marking. The excellent strength of the material prevents deformation while allowing it to remain flexible enough for operation of clips and latches without tools. The material is free of halogens and contains no metallic components, thus ensuring permanent insulation without contact corrosion occurring.

Award ceremony: High-voltage connector for electric cars
From left: B. Rzepka, President SPE Central Europe | Sponsor representative | M. Wolter, Kostal Company | Ch. Kruse, EMS-GRIVORY | J. Wahle, Kostal Company

Battery management module for electric cars

Diesel return lines for heavy-duty trucks



High-voltage connectors for electric cars

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