

News Release

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Busbar holders made of Elastollan® R 2600 FHF – More safety for future mobility

- **Newly developed thermoplastic polyurethane overmolding for busbars is more resistant to thermal cycling due to optimized thermal linear expansion**
- **Material also features low processing temperature, low density, and colorability**

The transformation of the car from the combustion engine to the electric powertrain is progressing. Highly efficient battery systems are the key to success of electromobility as the power is transmitted from the charging components to the battery and from there to the electric motor. This is done by metal busbars. Plastic overmoldings ensure electrical insulation of the busbars and, thus, safe distribution of the high-voltage currents.

Optimized thermal linear expansion

BASF is expanding its portfolio with a newly developed thermoplastic polyurethane (TPU) from its Elastollan® product line for these busbar holders. Compared to standard engineering plastics, Elastollan® R 2600 FHF particularly stands out due to the optimized thermal linear expansion. Its linear thermal expansion coefficient is close to copper and comparable conductor materials. This reduces the risk of cracks occurring during temperature changes which increases the safety standard.

Furthermore, Elastollan® is halogen-free flame retardant achieving the classification UL94 V-0.

In addition to the main aspect of thermal linear expansion, the TPU also has three convincing advantages compared to materials such as polyphenylene sulfide (PPS). It can be processed at lower temperatures, has a lower density and, due to its white color, can be easily colored even with bright pigments.

Simulation supports customers in product design

Moreover, BASF is able to simulate the design of busbar holders. "Like several other Elastollan® grades, the new Elastollan® can be simulated by our Ultrasim® tool. We use this tool to support our customers in the design of components. As a result, production steps can be saved and the full potential of the material can be utilized", explains Dr Thomas Bayerl, Segment Marketing Manager E&E from BASF's Performance Materials division.

Due to their mechanical processability, busbar holders made of Elastollan® contribute to the mass production capability of electric cars and form an important piece in the mosaic of future mobility.

About BASF's Performance Materials division

BASF's Performance Materials division encompasses the entire materials' know-how of BASF regarding innovative, customized plastics under one roof. Globally active in four major industry sectors – transportation, construction, industrial applications and consumer goods – the division has a strong portfolio of products and services combined with deep understanding of application-oriented system solutions. Key drivers of profitability and growth are our close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis to develop innovative products and applications. In 2021, the Performance Materials division achieved global sales of €7.29 bn. More information: www.plastics.basf.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 111,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface

Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €78.6 billion in 2021. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.