Successful cooperation between KRAIBURG TPE and automobile manufacturer

**Innovative collaboration: award for jointly developed component**

**Collaboration between an automobile manufacturer headquartered in Southern Germany and KRAIBURG TPE has resulted in the creation of an outstanding solution. Future-oriented, sustainable and efficient, the new material was developed in close cooperation with the OEM and is now moving into series production.**

Installed in a wide range of locations within a vehicle, seals are used, among other things, to prevent ingress of water into vehicle interiors through doors, engine compartments, trunk lids or other areas. However, contact and movement between rubber components and those made of materials such as glass, plastic or metal can often result in unwelcome noise. In severe cases, movement is so inhibited that components begin to slide across each other in a jerky fashion known as the stick-slip effect. A manufacturer of premium vehicles and KRAIBURG TPE decided to collaborate closely on the development of solutions to such problems. To date, the highpoint of these joint material development activities has been winning the Best of Award at the 18th MATERIALICA Design Awards.

The conventional way to eliminate the irritating noises caused by the stick-slip effect has been to add an anti-friction coating. However, it is sometimes impossible to apply these coatings in a completely reliable way, and they also tend to deteriorate as time goes by. When this happens, these irritating noises emerge at a later stage of a vehicle’s lifecycle, bringing a deterioration in quality that OEMs are keen to avoid. A further disadvantage of widely-used tribological anti-friction coatings is that they prevent separation of materials in end-of-life vehicles, severely impairing their recyclability.

The new approach removes the glaring disadvantage of previous solutions: thanks to the custom-designed material, adapted component and modified material, there is no need for an additional coating. Further advantages include the depot effect (ensuring long-term anti-frictional properties), maximum freedom of design, greater flexibility during processing, fewer processing stages, and savings in both weight and costs. On top of all this, the thermoplastic elastomer used in the new solution can be recovered for in-process recycling.

An overview of the key data:

* Siding friction coefficient of the component reduced by up to 90%
* Abrasion reduced by 50%
* Material up to 100% recoverable for in-process recycling

“The close collaboration with the automobile manufacturer enabled us to make critical progress in the course of the project. In our opinion, the project is a shining example of successful, dependable and sustainable collaboration between a raw material supplier and an OEM, greatly benefiting both parties”, says Dipl. Ing. Florian Vetter, Development – Automotive at KRAIBURG TPE, describing the close cooperation. “The entire project benefited from the OEM’s early involvement, ultimately enabling us to come up with a solution that meets the exact requirements”.

The winners of the 18th MATERIALICA Design + Technology Award were announced on October 20th, 2020 as part of the eMove360° Hybrid 2020 Conference & Exhibition for Mobility 4.0 – electric-connected-autonomous. Mercedes Benz AG and KRAIBURG TPE gained the Best of Award in the material category for Silent materials – best performance in tribological systems.



**Photo:** Moving forward, more and more projects will involve direct cooperation between OEMs and materials manufacturers. Collaborations of this kind are critical to the rapid development of future-oriented, effective and sustainable solutions. ***(Source: KRAIBURG TPE)***

**About KRAIBURG TPE**

KRAIBURG TPE (www.kraiburg-tpe.com) is a global manufacturer of thermoplastic elastomers. From its beginning in 2001 as subsidiary of the historical KRAIBURG Group founded in 1947, KRAIBURG TPE has pioneered in TPE compounds, today being the competence leader in this industry. With production sites in Germany, the US, and Malaysia the company offers a broad range of compounds for applications in the automotive, industrial, consumer, and for the strictly regulated medical sectors. The established THERMOLAST®, COPEC®, HIPEX®, and For Tec E® product lines are processed by injection molding or extrusion and provide numerous processing and product design advantages to manufacturers. KRAIBURG TPE features innovative capabilities as well as true global customer orientation, customized product solutions and reliable service. The company is certified to ISO 50001 at its headquarters in Germany and holds ISO 9001 and ISO 14001 certifications at all global sites. In 2020, KRAIBURG TPE generated sales of 184 million euros with around 650 worldwide employees.