

Press Release

TPEs spark advancements in battery management systems

Kuala Lumpur, April 2023

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KRAIBURG TPE Technology
(M) Sdn Bhd
Lot 1839 Jalan KPB 6
Kawasan Perindustrian Balakong
43300 Seri Kembangan, Selangor,
Malaysia

Phone +60 3 9545 6393

Info-asia@kraiburg-tpe.com
www.kraiburg-tpe.com

TPEs spark advancements in battery management systems

For applications in connectors and plugs, both of which are essential for the operation of battery management systems, globally recognized TPE manufacturer of thermoplastic elastomer products and custom-engineered TPE solutions KRAIBURG TPE provides the AD1/CS and FR series of compounds.

Electromobility is driving technological advancements to enhance safety features of vehicles, as well as render more efficient, safe, and comfortable driving. Along with enhanced accessibility to charging infrastructure, battery management systems, the heart of every vehicle, are also advancing.

Connectors and plugs play a vital function in battery management systems in order for batteries to operate efficiently, safely and to last for an extended period of time. These components ensure an uninterrupted supply of electrical energy while the vehicle is in operation and keep the battery charged.

It is critical, therefore, for the selection of advanced materials that will provide top-tier performance while simultaneously safeguarding plugs and connectors from fire hazards.

Thermoplastic elastomers (TPEs) are safe, versatile, and long-lasting materials that can be used in battery charging system plugs and connectors.

KRAIBURG TPE, a globally recognized TPE manufacturer of thermoplastic elastomer products and custom-engineered TPE solutions, provides safety-compliant TPE compounds in a range of hardness suitable for connectors and plugs.

Media Contact

Marlen Sittner
Head of Digital Marketing
Team Corporate Communications
Phone: +49 8638 9810-272
marlen.sittner@kraiburg-tpe.com

Asia Pacific
Bridget Ngang
Marketing Manager Asia Pacific
Phone: +603 9545 6301
bridget.ngang@kraiburg-tpe.com

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AD1/CS series – for good adhesion to thermoplastics

Selected TPE compounds from KRAIBURG TPE have been certified as meeting the UL94HB flammability standards, which specify how quickly a material will burn once ignited, to reduce the risk of a fire.

One of these select TPEs from KRAIBURG TPE that is UL94HB-certified is the AD1/CS series of compounds.

It has good compression set and adhesion to polar thermoplastics such as ABS, PC, PC/ABS, ASA, SAN, and PBT via the injection molding and extrusion processes, allowing for various design possibilities.

It is available in both natural and black colors and is suitable for overmolding in plug applications.

FR2 series – featuring high flame retardant properties

KRAIBURG TPE's FR2 series of compounds is proven to be stable in temperatures up to 60°C and humidity levels of 75%. It displays self-extinguishing properties and does not emit burning droplets.

It is available in a variety of hardness with UL 94 V-0 (1.5 mm) certification and classification according to IN EN 45545-2 R22/23 HL3. The TPE compounds are halogen-free according to IEC 61249-2-21 criteria, and are silicone-free.

The FR2 series of compounds, which is available in both black and natural colors, adheres well to PP and has no interaction with copper.

It is recommended for plug and connector applications in high voltage battery charging systems.

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Sustainability successes of our TPE

Besides the materials for applications in connectors and plugs, KRAIBURG TPE's recent sustainability innovations include a specially developed material solution for consumer, and industry applications comprising post-consumer recycled (PCR) and post-industrial recycled (PIR) content.

Are you looking for a sustainable TPE solution? [Talk to us!](#)

Our experts are happy to answer any questions you have, as well as to offer the right solution for your application.



(Photo: © 2023 KRAIBURG TPE)

For high-resolution photography, please contact Bridget Ngang
(bridget.ngang@kraiburg-tpe.com , +6 03 9545 6301).

Information for members of the press:



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KRAIBURG TPE (www.kraiburg-tpe.com) is a global manufacturer of custom thermoplastic elastomers. KRAIBURG TPE was founded in 2001 as an independent business unit of the KRAIBURG Group and is now the industry's competence leader in the field of TPE compounds. The company's goal is to provide safe, reliable and sustainable products for customer applications. With more than 680 employees worldwide and production sites in Germany, the USA and Malaysia, the company offers a large product portfolio for applications in the automotive, industrial and consumer goods industries, as well as for the strictly regulated medical sector. The established THERMOLAST®, COPEC®, HIPEX® and For Tec E® product lines are processed by injection molding or extrusion and offer manufacturers numerous advantages not only in processing but also in product design. KRAIBURG TPE is characterized by its innovative strength, global customer orientation, customized product solutions and reliable service. The company is ISO 50001 certified at its headquarters in Germany and holds ISO 9001 and ISO 14001 certifications at all its sites worldwide.