

Press Release

KRAIBURG TPE Unlocks Advanced Functionality for Smart Locks with Light Effect TPE

Kuala Lumpur, September 2025

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Smart lock systems are electronic alternatives to mechanical locks, operating without physical keys. They use technologies like PIN codes, fingerprint recognition, RFID cards, Bluetooth or Wi-Fi, and voice control to provide secure, convenient, and remote access in homes, offices, apartments, and vehicles. To make operation more intuitive, manufacturers use thermoplastic elastomers (TPE), which simplify functions, improve control surfaces, and enhance visibility in low light, while keeping the locks reliable and easy to use.

KRAIBURG TPE, a global manufacturer of TPEs and customized solutions for various industries, offers [Light Effect TPE](#), a light-transmissible material that creates an ambient glow. It combines aesthetics with performance and is suited for smart home devices, automotive interiors, and other electronic applications.

Illuminating features for function and style

KRAIBURG TPE's Light Effect TPE is tailored for components that emit light, providing subtle backlighting and illuminated indicators to enhance user engagement and device intuitiveness. It allows soft, diffused light to pass through, making it ideal for lighting keypads, buttons, or keyholes in low light, signaling lock status, marking touch-sensitive areas, and adding lighting accents. Available in black and colored variants, it gives designers control over illumination levels for both functional and aesthetic purposes.

Reliable performance and versatile applications

KRAIBURG TPE's Light Effect TPE compounds have a density of 0.89 ± 0.03 g/cm³, a hardness of 60 ± 5 ShA, and offer a tensile strength of 10 MPa with 700% elongation, providing the flexibility and durability needed for demanding applications. The material is [weather-resistant](#), [UV-resistant](#), halogen-free (in accordance with IEC 61249-2-21), and maintains its performance and shape

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throughout its service life. It bonds well with polypropylene (PP), making it suitable for smart lock systems, interior car lighting, light panel covers, gaming accessories, display panels, household appliances, [consumer electronics](#), and smart home devices. It can also be reused during production to promote a more sustainable manufacturing.

Soft touch for precision and control

KRAIBURG TPE's Light Effect TPE has a soft-touch surface that gives smart lock devices a high-end, tactile finish. When used on frequently handled components, it improves comfort and control, resulting in smoother operation and a more polished device interface.

Sustainability from the get-go

At KRAIBURG TPE, sustainability is at the heart of our innovation. Our portfolio features bio-based TPEs and compounds with post-consumer (PCR) and post-industrial (PIR) recycled content. Selected TPEs carry GRS and ISCC PLUS certifications. We also provide Product Carbon Footprint (PCF) data on request to support sustainability decisions.

We have proudly earned the EcoVadis Gold Medal in 2025 and are committed to the Science Based Targets initiative (SBTi), aligning our goals with global climate action.

From reducing emissions to increasing circularity, our sustainable TPEs deliver dependable performance and are available worldwide to help meet your applications while advancing your sustainability goals.

Get in touch today to explore how KRAIBURG TPE is able to support you on your sustainability and product development journey.

***Disclaimer:** The applications mentioned are illustrative of material capabilities only. Final product suitability and regulatory compliance must be assessed and validated by the customer.*

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For high-resolution photography, please contact Bridget Ngang
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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 700 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.