

Press Release

KRAIBURG TPE's Sustainable Materials Zero in on Smart Trash Bin Applications

Kuala Lumpur, December 2025

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Artificial Intelligence (AI) is already integrated into nearly all aspects of our lives, from communication and work to healthcare, entertainment, travel, and finances. But AI for our rubbish? It's not so surprising!

One of the newest AI-integrated home systems is a smart trash bin with automated sorting capabilities for recyclables, non-recyclables, and contaminated waste, ultimately improving recycling efficiency. Built for [sustainability](#), a smart trash bin uses eco-friendly materials consistent with its purpose.

KRAIBURG TPE, a global manufacturer of TPEs and customized solutions for various industries, offers the THERMOLAST® R - RC/PCR/AP series, developed for the Asia Pacific market, with post-consumer recycled (PCR) content for sustainability-driven smart home appliances.

Sustainable material with low carbon footprint

The [THERMOLAST® R - RC/PCR/AP series](#) contains 25% to 48% post-consumer recycled (PCR) content, depending on hardness, offering a sustainable option for manufacturers aiming to reduce environmental impact without compromising performance. Certified under the [Global Recycled Standard \(GRS\)](#), the compound meets industry criteria for responsibly sourced materials and contributes to improving functionality in smart trash bins.

[Intelligent solution](#) for durable and adaptable design

The THERMOLAST® R - RC/PCR/AP series is a high-performance, eco-friendly thermoplastic alternative to conventional elastomers such as ethylene

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propylene diene monomer (EPDM) and plasticized polyvinyl chloride (PVC-P). Its optimized mechanical properties, including flexibility, resilience, durability, and good flowability, make it ideal for components like odor-sealing gaskets, soft-close lid dampers, anti-slip base pads, and control buttons.

With a hardness range of 50 to 90 Shore A, it offers design flexibility: softer grades are suitable for sealing or [grip elements](#), while harder grades add rigidity to structural parts such as lid dampers or foot pedals. The material is also compatible with injection molding processes, facilitating efficient and scalable production.

In the loop with safe and soft-touch designs

The THERMOLAST® R - RC/PCR/AP series is recommended for [smart applications](#) requiring reliable sealing, user comfort, and regulatory compliance.

It offers strong adhesion to polypropylene (PP) in both multi-component and single-component parts, enabling airtight seals that trap odors and improve indoor sanitation.

Its low-odor profile and compliance with REACH and RoHS SVHC requirements make it ideal for hygiene-focused settings. With thermal stability up to 80°C and pleasant haptics, the compound provides a smooth, non-sticky surface ideal for touchpoints such as buttons and lid rims.

Available in black color, it complements modern aesthetics and flexibility for designing.

Sustainability from the get-go

At KRAIBURG TPE, sustainability drives our innovation. Our portfolio includes bio-based TPEs and compounds with post-consumer (PCR) and post-industrial (PIR) recycled content. Selected TPEs are certified under GRS and

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ISCC PLUS. We also provide Product Carbon Footprint (PCF) data upon request to support sustainability decisions.

We 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 reliable performance and are available worldwide to support your applications while advancing your sustainability goals.

Get in touch today to learn how KRAIBURG TPE can support your sustainability and product development journey.

Discover More with TPE : From [smart food containers](#) to [vacuum cleaners](#) and [home appliances](#), explore how our TPE solutions bring safety, durability, and innovation into everyday living.

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



(Photo: © 2025 KRAIBURG TPE)

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

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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.