**Fuel Efficiency Hits the Road with KRAIBURG TPE's THERMOLAST® K for Active Grill Shutter (AGS)**

Fuel efficiency in [automotive industry](https://www.kraiburg-tpe.com/en/automotive) has recalibrated how vehicles are built to make every drop of fuel go a long way. As vehicles adapt to the needs of the market, high-end cars to SUVs and hybrids are outfitted with features like the [Active Grille Shutter (AGS)](https://www.kraiburg-tpe.com/en/automotive-powertrain), which is an electronically controlled vent located in the front grille, to make driving more fuel efficient.

AGS is a simple yet effective system that opens or closes vents based on driving conditions. It allows airflow when cooling is needed and closes at higher speeds to reduce drag, helping the vehicle move more efficiently.

Like any system, AGS can malfunction. Extreme weather, electrical faults, or mechanical issues may affect its performance. Using advanced materials like thermoplastic elastomers (TPEs) in its construction improves reliability and ensures consistent function under changing conditions.

KRAIBURG TPE, a global manufacturer of [thermoplastic elastomers (TPE)](https://www.kraiburg-tpe.com/en/thermoplastic-elastomers) and customized material solutions for various industries, offers the THERMOLAST® K series for new generation AGS applications to boost durability and maintain reliable performance.

**Lightweight and Low-Density Formulation**

THERMOLAST® K offers low-density compounds (<0.8 g/cm³), making it ideal for exterior automotive components. This [lightweight material solution](https://www.kraiburg-tpe.com/en/lightweight-tpe) results in lighter AGS assemblies, improving fuel economy in conventional and hybrid vehicles or extending range in [electric vehicles](https://www.kraiburg-tpe.com/en/tpe-solutions-ev-charger), without compromising strength or performance.

**Thermo‑Mechanical and Low‑Temperature Resilience**

THERMOLAST® K retains material resiliency as well as thermal and mechanical stability across demanding temperature cycles, performing reliably from –40 °C. This makes it suitable for use in engine bays and exterior fasteners, where thermal stress is frequent. Year-round functionality is especially important for shutter mechanisms and sealing elements that must operate in all climates.

**Exceptional Multi‑Component Bonding**

[THERMOLAST® K](https://www.kraiburg-tpe.com/en/thermolast-k) enables reliable two-component (2K) injection molding, making it well-suited for AGS components that often require soft or rigid interfaces bonded to hard plastics. It forms strong adhesion with a wide range of thermoplastic substrates, including PP, ABS, PC, PC/ABS, PBT, PETG, ASA, SAN, PMMA, PET, PA6/6.6/12, POM, PS, HIPS, and more. Its excellent flow behavior ensures precise molding and reduces weld lines, resulting in a high-quality surface finish. The material is also optimized for extrusion processes. Available in a broad hardness range—from supersoft to 66 Shore D, it also comes in translucent and transparent grades, even for adhesion compounds, with in-house coloring options to meet the visual specifications of AGS units.

**Precision Molding and** **Lasting Performance**

THERMOLAST® K compounds offer excellent flowability, ensuring a tight, accurate, and defect-free fit for components such as gaskets and sealing edges, especially on narrow or complex contact surfaces commonly found in AGS housings. This level of precision enhances the aerodynamic function and overall performance of the AGS. The TPE compounds also provide strong mechanical properties, offering high resistance to continuous shocks, vibrations, and temperature fluctuations during vehicle operation. These qualities make it a reliable choice for maintaining AGS functionality and structural integrity in harsh outdoor conditions.

**Sustainability from the get-go**

At KRAIBURG TPE, [sustainability](https://www.kraiburg-tpe.com/en/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 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.*

A skeleton in a car

AI-generated content may be incorrect. **(Photo: © 2025 KRAIBURG TPE)**

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

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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.