

New Geely front end carrier to use innovative lightweight solution from LANXESS

- **Modern lightweight design**
- **High modulus and high flow PA6 base material – Durethan BKV50H2.0 EF**
- **Focus on material characteristics and optimized costs**
- **Superior mechanical performance**

Cologne, September 29, 2021 – Chinese car manufacturer Geely has selected specialty chemicals company LANXESS as supplier of choice for an innovative front end carrier (FE) structural component, which will be used in a coming passenger car model. The component's design concept is a state-of-the-art hybrid design solution going beyond the traditional square/rectangular form FE structure.

While the lower cooler mounting is in sheet metal, the complex upper member was developed using the highly filled and heat stabilized Durethan BKV50H2.0 EF, a material well suited for structural components that require high stiffness and strength. The full plastic design for the upper section caters to a wide range of requirements of this multi component assembly. The concept not only demonstrates LANXESS' competence of hybrid solution application in automotive lightweight structures and the advantage of using high modulus thermoplastic material such as Durethan BKV50H2.0 EF, but also provides a cost effective solution to achieve multiple saving targets.

Challenging competition environment

LANXESS was chosen by Geely as material supplier based on its expertise in handling the part design as well as the suitability of its Durethan polyamide material. "Yet designing a plastic structural component and providing the right material is not enough. Considering the overall market background, customer expectations, understanding the tasks on hand and preparing different potential

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design proposals for the FE structure was also key in developing this project,” Add Tsui, project manager at the High Performance Materials (HPM) business unit, said.

High modulus material

LANXESS engineering plastics are designed to support customers in achieving maximum component performance and efficient processing. To meet these objectives, the company established the Pocan and Durethan EF and XF product lines, a broad range of easy-flow polybutylene terephthalates (PBT) and polyamide 6 and 66 grades. “EF” stands for “EasyFlow,” “XF” for “XtremeFlow.” In addition, LANXESS has developed high-modulus thermoplastics with glass fiber contents of 50% and more. These products display unusually high stiffness and strength and, despite their high filler content, can still be processed as easily and efficiently as comparable standard materials. “Smart materials offer attractive advantages for design and manufacturing provide designers with entirely new options”, said Wei Lin, LANXESS key account manager.

Support in component design and part validation

Apart from high-tech thermoplastics, LANXESS offers extensive know-how and experience, as well as state-of-the-art design and simulation methods, and part evaluation & testing. Its experts actively contribute their engineering know-how to customer projects. HiAnt, the integrated service package for lightweight solutions, aims to help our customers achieve maximum performance while minimizing weight. To pursue optimized design, mathematical simulation methods are outstanding instruments for the design and optimization of parts and they deliver fairly accurate statements on part behavior. When it comes to making a definitive statement on the functional capability of parts, however, it is generally still necessary to conduct practice-oriented tests on prototypes. For this reason, most OEMs (original equipment manufacturers) prescribe stringent corresponding acceptance tests and specifications. LANXESS has a state-of-the-art

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test laboratory and the corresponding specialist employees, and can offer an extensive range of testing facilities.

Geely Holding Group is a global innovative technology group engaged in the design, R&D, production, sales, and service of vehicles, powertrains, and key components, as well as mobility services and digital technologies. The cutting-edge technologies comprise new energy, shared mobility, vehicle networks, autonomous driving, vehicle microchips, low orbit satellites, and laser communication as it lays the foundation for a future multi-dimensional mobility ecology.

Headquartered in Hangzhou, China, Geely Holding today has more than 120,000 global employees. It owns a number of brands including Geely Auto, Volvo Cars, Polestar, Proton Cars, Lotus, London Electric Vehicle Company. It is also the largest shareholder in Daimler AG and the second largest shareholder in Volvo AB.

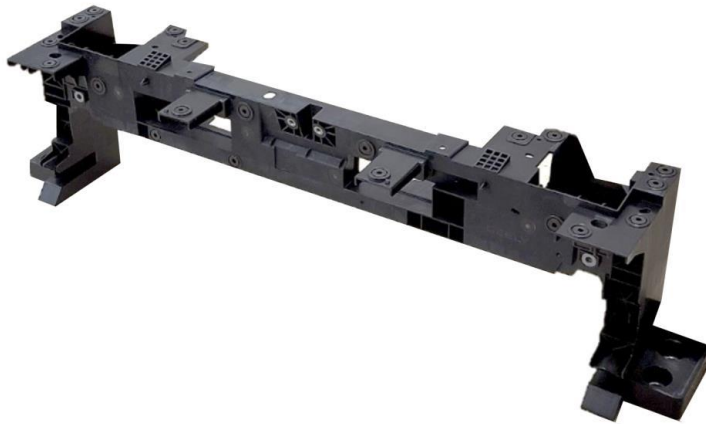
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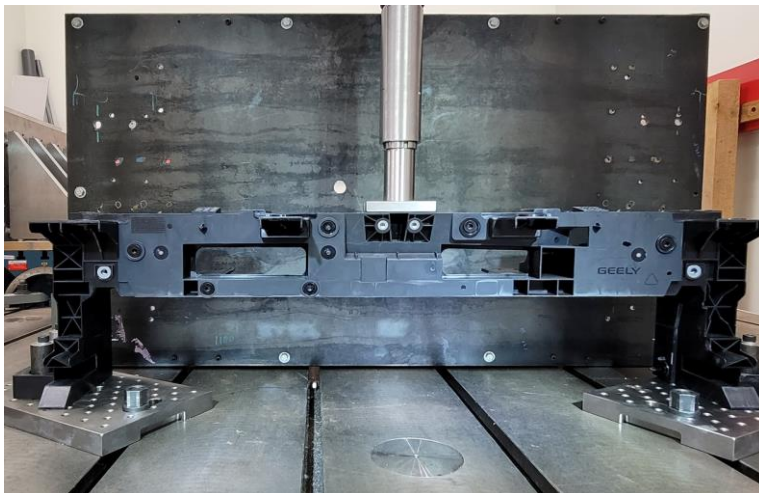
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Images



Smart designed front end carrier made from the Durethan BKV50H2.0 EF polyamide 6 compound is part of latest-generation automatic structural parts from various carmakers.

Photo: LANXESS



LANXESS comprehensive part testing services conclude new application developments to ensure highest safety and reliable performance according to customer specifications and in correlation with LANXESS advanced CAE methodologies.

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LANXESS is a leading specialty chemicals company with sales of EUR 6.1 billion in 2020. The company currently has about 14,800 employees in 33 countries. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

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