

LANXESS: High performance plastics grade for production of battery housings

- **Excellent insulation and flame-resistance minimizes fire risk**
- **Lower weight of battery module assembly**
- **High level of functional integration reduces processing and assembling costs**
- **Applied to series production of Korean carmaker**

Cologne, August 24, 2021 – Specialty chemicals company LANXESS and Korean auto parts specialist INFAC have together developed a battery module housing for electric vehicles (EVs).

The battery housing uses Durethan BKV30FN04 from LANXESS to satisfy stringent mechanical and chemical property requirements for latest EV components. The halogen-free, flame-retardant and glass-fiber-reinforced polyamide 6 (PA6) is characterized by its excellent flame-retardant and electrical properties. The material is highly processable and enables the integration of complex functions required for housing components, resulting in a smaller number of parts and a simplified assembly process as well as lighter weight.

The new battery housing part has been adopted to series production of EV models launched by a Korean OEM this year. “Success in mass production of battery housing demonstrates LANXESS Durethan’s excellence in EV batteries, in which technology and safety are of utmost importance. Our high performance plastics will make a significant contribution to the EV and battery markets,” Milan Vignjevic, head of LANXESS’ High Performance Materials (HPM) business unit in Asia-Pacific, says.

Flame retardant plastics with excellent mechanical and electrical characteristics

For the battery module housing shock absorption and thermal management are critical in order to protect the battery from external shock. Durethan BKV30FN04 is not only mechanically robust, but also

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Page 1 of 4

boasts high-voltage insulation, resistant to up to 800 V and effectively blocking high-voltage current. With strong flame-retardant properties, it prevents or delays flames from spreading in case of a fire. Glass-fiber reinforced Durethan BKV30FN04's durability to mechanical loads is superior to unfilled PA6.

Furthermore, it maintains excellent strength and stiffness when in contact with electrolyte or cooling media, and has chemical resistance to suppress chemically-induced damage.

LANXESS' engineering plastics can be applied to a wide range of battery components including battery covers, high-voltage connectors, cable brackets and battery cell cooling system pipes as well as parts for hydrogen fuel cell vehicles such as hydrogen storage tanks. It can also replace metals in various components, enabling lightweight design. It allows to produce several functional components in one process, a driver behind continuous growth in demand in the next generation mobility market where a number of technologies and components come into play.

"High-quality materials, technical expertise and customized engineering services from LANXESS enabled us to speed up our development. This helped solidify our position in the fast-evolving EV battery parts market," Gyuso Lee, Head of Purchasing & Development at INFAC, says.

Sanghun Han, Head of HPM in Korea, says, "LANXESS has closely cooperated with globally leading automotive OEMs, including from Korea. That is why we were able to identify the trends and the challenges of e-mobility at an early stage and participate in various EV and battery development projects. With accumulated success stories with our customers, we are establishing ourselves as a key material partner in new mobility."

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Page 2 of 4

Image



LANXESS and Korean auto parts specialist INFAC have together developed a battery module housing for electric vehicles (EVs). The battery housing has been adopted to series production of EV models launched by a Korean OEM.

Photo: INFAC

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Page 3 of 4

INFAC is a Korean auto parts manufacturer specializing in automotive control cables, actuators, antennas, and battery packs. Since its establishment in 1969, INFAC has been operating 17 sites in Korea, the United States, Mexico, China, Czech Republic, India, and Vietnam, supplying auto parts to leading global automakers. With its continuous R&D efforts in auto parts ranging from chassis, electronic and driving parts to eco-friendly cars and future intelligent cars, the company is solidifying its position as a global OEM parts supplier. It currently has about 1,500 employees around the world.

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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You can find further information concerning LANXESS chemistry in our WebMagazine at <http://webmagazine.lanxess.com>.

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Page 4 of 4