Progress beyond

Solvay introduces new polymer for high-heat EV battery module insulation

Xydar® LCP G-330 HH is a new liquid crystal polymer grade designed to increase passengers' safety in the event of a battery thermal runaway

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Solvay, a global market leader in specialty materials, has announced the introduction of a new high-heat and flame retardant grade in the company's Xydar® liquid crystal polymers (LCP) portfolio, which is designed to meet critical safety demands in EV battery components. The new Xydar® LCP G-330 HH material addresses challenging thermal and insulation requirements and is targeted particularly at battery module plates of EV models operating with higher voltage systems.

"As automakers are moving from 400V to 800V on next-generation electric vehicles, new regulations in Europe, China, the United States and other countries are increasing the demand on battery components to withstand temperatures from 300°C to 1000°C for an extended window of up to 15 minutes," states Brian Baleno, Head of Marketing, Transportation at Solvay Materials. "Appropriate materials are expected to retain a level of electrical insulation protection that will provide sufficient time for passengers to exit the vehicle in a thermal runaway event. Our new Xydar® LCP grade combines this high safety potential with exceptional processability."

Xydar® LCP G-330 HH is a glass-filled LCP for injection molding capable of retaining its electrical insulation upon exposure to 400°C for 30 minutes. Xydar® LCP is an inherently flame retardant polymer, without the use of halogen or bromine additives. In addition, it offers exceptional flowability and helps battery designers achieve thinner parts than possible with incumbent battery module insulation materials, such as polycarbonates or aerogels. It has been successfully tested with plates molded in typical dimensions of 100 x 150 x 0.5 mm.

Xydar® LCP has a proven fit in many electrical and electronic as well as coating applications. Besides automotive lighting components, sensors, solenoids and connectors, advanced examples in e-mobility include thin-wall slot liners used in the rotor design of an electric drive traction motor.

Xydar® LCP G-330 HH extends the portfolio of Solvay's battery solutions, which also includes Solef® PVDF for binders and separators, Ryton® PPS for coolant line connectors and vents, and Amodel® PPA for connectors and busbars.

You can learn more about Solvay's new product developments and the company's initiatives by visiting Booth 17P61 at Chinaplas from April 17 - 20 in Shenzhen, China.

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Solvay is a science company whose technologies bring benefits to many aspects of daily life. With more than 22,000 employees in 61 countries, Solvay bonds people, ideas and elements to reinvent progress. The Group seeks to create sustainable shared value for all, notably through its Solvay One Planet roadmap crafted around three pillars: protecting the climate, preserving resources and fostering a better life. The Group's innovative solutions contribute to safer, cleaner, and more sustainable products found in homes, food and consumer goods, planes, cars, batteries, smart devices, health care applications, water and air purification systems. Founded in 1863, Solvay today ranks among the world's top three companies for the vast majority of its activities and delivered net sales of €13.4 billion in 2022. Solvay is listed on Euronext Brussels and Paris (SOLB). Learn more at www.solvay.com.

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