

Press Release



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Joining forces ... and plastics

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Advanced laser welding solutions for electric vehicle battery enclosures

Batteries used in electric vehicles must be actively cooled to function properly and retain their life span. This process, known as fluid cooling, requires airtight seals to keep fluids contained and avoid spills. While several joining methods can be used to weld plastic battery packaging components, those that do not require external agents are less complex and more cost-efficient.

Of these techniques, manufacturers often turn to laser welding as it allows for larger parts, does not require a pre-treatment and offers high-precision, repeatability and control. Covestro LLC worked with **Leister Technologies LLC** to develop process and material solutions for laser welding fluid-cooled battery modules used in electric vehicles such as new passenger vehicles, electric buses, trucks and other utility vehicles.

“This joining technique provides the accuracy needed for welding in tight locations and around other components in fluid-cooled systems,” said Fernando Santillana, senior project manager – Midwest, East Coast, Caribbean and Latin America, Leister Technologies LLC.

Laser welding is traditionally only used with translucent or optically clear plastics. Now, however, Covestro and Leister Technologies have extended use of this joining technique to include opaque flame-retardant Bayblend® PC+ABS blend from Covestro, while achieving the same level of weld strength. Flame-retardant plastics are preferred and often required for battery enclosures as they can help prevent or delay the spread of fires.



“Using Bayblend® FR3010 PC+ABS blend, we developed effective and reliable laser welding solutions for production-ready battery modules that can withstand battery abuse testing, including UN38.3,” said Terry Davis, principal engineer, Covestro LLC. “With this material, battery manufacturers can create reliable and leak-free battery enclosures.”

Naturally opaque Bayblend® FR3010 PC+ABS blend features a variety of benefits, including high-impact strength, chemical and hydrolysis resistance, thermal stability, and a good balance of high-heat distortion and physical performance.

Attendees at **The Battery Show**, Sept. 11-13, in Novi, Michigan, can visit the Covestro booth (#1733) to learn more about the company’s material solutions for battery and electric vehicle applications. Leister Technologies will also be demonstrating its laser welding technology in booth #1417 at the show.

About Covestro LLC:

Covestro LLC is one of the leading producers of high-performance polymers in North America and is part of the global Covestro business, which is among the world’s largest polymer companies with 2017 sales of EUR 14.1 billion. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, electrical and electronics and healthcare industries. Other sectors include sports and leisure, cosmetics and the chemical industry itself. Covestro has 30 production sites worldwide and employed approximately 16,200 people at the end of 2017.

About Leister Technologies LLC:

Headquartered in Chicago, Leister Technologies LLC is a subsidiary of Leister Technologies AG. It supports the sales and service of Leister’s full line of process heat, plastic welding, laser and microsystem products through its wide network of distribution partners across North America.

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