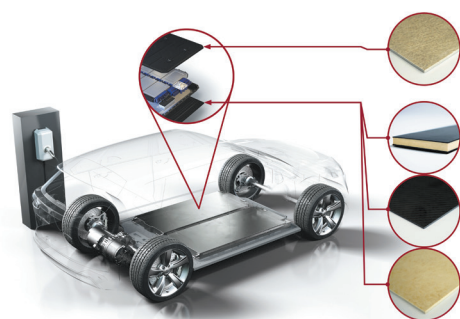


Helping EV battery casing manufacturers boost productivity and part performance

When it comes to creating glass fibre-reinforced plastic (GFRP) composite parts for electric vehicle battery casing applications, manufacturers are under continual pressure to innovate and deliver components that are lighter, stronger and quicker to process.



COMPOSITE PARTS FOR ELECTRIC VEHICLE BATTERIES MADE WITH POLYURETHANE SOLUTIONS

Now, it's easier than ever for battery casing manufacturers to make new gains in all these areas. In a move that delivers better performing composites alongside extra design and production flexibility, Huntsman has assembled a portfolio of polyurethane products that can be used to create under body and upper cover battery protection components up to 30% quicker than some existing technologies. Crucially, the products can also lower overall part weight and increase strength and structural performance.

Covering numerous battery protection needs, Huntsman's one-stop shop includes a unique mix of customisable, quick cure, high strength, polyurethane resins for energy efficient wet compression moulding (WCM), core moulding, and long fibre injection (LFI) moulding.

Products include:

RIMLINE® WCM polyurethane system for underbody battery protection panels: Formulated for use on HP-mix machines, this low viscosity liquid resin enables moulding of high fibre volume fraction composites under low pressure. Balancing a long working life and short cure time with easy mould release, this system can help reduce overall cycle times.

RIMLINE® FC polyurethane system for battery underfloor protection: A cost effective solution for manufacturing sandwich composites, this lightweight foam core system can be versatile and durable in equal measure. Great flow properties mean complex 3D shapes can be achieved, enabling greater design freedom. The system can significantly outperform other materials in terms of cycle times thanks to its quick cure properties. It also offers good adhesion to different overmoulding materials while leaving low residual levels on the tool surface, which helps cut cleaning times.

RIMLINE® LFI polyurethane system for battery underfloor protection: With glass reinforcement, the RIMLINE® LFI resin system can be moulded into strong stiff parts with a density of – for example – 1100 kg/m³ including 30% fibre reinforcement. The result is lower total sandwich thickness and improved damage tolerance.

VITROX® WCM polyurethane system for high flame-resistant upper battery covers: This composite resin system was developed for the production of lightweight and mechanically stable

EV battery casing covers. Moulded in combination with E-glass chopped strand mat reinforcement, fire retardancy can reach UL 94 5VA levels, which would be beyond the current industry standard UL 94 V0. Huntsman's VITROX® RTM polyurethane system for HP RTM processing is also available as an option.

Huntsman's MDI-based solutions can meet the performance and quality expectations of the automotive industry, enabling improved production efficiencies and greater sustainability, and helping automotive manufacturers and their OEM partners successfully create lighter, cleaner, safer and more durable end-products. All technologies are available globally with support from local technical experts who can dispense advice at every step from modelling and testing to material application and final part production.

To find out more: polyurethanes_eu@huntsman.com

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