

# Press Release



Leverkusen,  
September 12, 2018

Covestro AG  
Communications  
51365 Leverkusen

Contact  
Dr. Frank Rothbarth  
Telephone  
+49 214 6009 2536  
E-mail  
frank.rothbarth  
@covestro.com

Covestro at Fakuma 2018

## **Polycarbonate protects the heart of electric mobility**

### **Safe integration of battery cells in lithium-ion batteries**

The automotive industry is in a state of upheaval worldwide. Alternative drive technologies, new forms of connectivity and autonomous driving necessitate completely new vehicle concepts. One of Covestro's current focal points is the use of polycarbonate plastics in electric vehicles.

The heart of future electric cars and hybrid vehicles is a lithium-ion battery. In order to position a large number of battery cells precisely and in a small space, cell holders and frames as well as housing components must be very dimensionally stable and mechanically robust. Depending on the design principle of the battery pack, the material must also be flame-retardant and meet category V-0 of Underwriters Laboratories' UL94 flammability classification even at low wall thicknesses down to 0.75 millimeters.

### **High-performance plastic solutions for battery housings**

Covestro has many years of experience in encapsulating lithium-ion batteries for laptops and other electronic devices. To achieve this, the company has developed various polycarbonate blends that meet these requirements and are also extremely impact-resistant over a wide temperature range – especially at sub-zero temperatures. At the Fakuma 2018 trade fair, the company will present various battery modules, cell holders, crash absorbers and other products at its stand number 4206 in Hall B4.

“When it comes to cell holders and the integration of battery cells into modules, flame protection is particularly important,” explains Dr. Julian Marschewski from Covestro. The electric mobility expert adds: “The properties of the materials used in the battery environment play a decisive



role in passing the many functional and safety tests on the finished component and contribute to the battery's safe operation over its entire life cycle.”

### **Tailor-made materials**

A flame-retardant polycarbonate ABS (acrylonitrile-butadiene-styrene) blend of the Bayblend® FR type is ideal for cell holders and battery modules. It is temperature-resistant and dimensionally stable, and the parts can be produced efficiently with injection molding. The plastic is also used in mobile GreenPack rechargeable batteries from the Berlin-based manufacturer of the same name.

The crash absorber exhibited at Fakuma 2018 is made of the PC-PBT (polybutylene-terephthalate) Makroblend® KU-2 7912/4. The material has very high impact strength and particularly high ductility at low temperatures. The honeycomb structure contributes to the extreme impact resistance of the crash absorber.

Another special material is the highly filled polycarbonates of the Makrolon® TC product family, which are already used for heat sinks in LED lamps, for example. These products are thermally conductive but also available as electrically insulating versions so they can contribute to the efficient thermal management of batteries.

### **Battery pack for tough conditions**

Enduros have to be ready for all wind and weather conditions, but above all must withstand the toughest mechanical demands. In these off-road motorcycles, too, the trend is towards electric drive. Californian electric bike specialist Alta Motors is a leading manufacturer of such machines. The battery under the name Alta Pack is equipped with a jacket made of the extremely impact-resistant PC-PBT blend Makroblend®.

Covestro continues to drive the safe integration of lithium-ion cells in the traction battery of electric vehicles forward. Next year, the company plans to actively participate in leading industry events such as the Battery Show from 5 to 7 May in Stuttgart and the Battery Experts Forum from 10 to 12 April in Frankfurt am Main.

### **About Covestro:**

With 2017 sales of EUR 14.1 billion, Covestro is among the world's largest polymer companies. 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, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 16,200 people (calculated as full-time equivalents) at the end of 2017.

*This press release is available for download from the Covestro press server at [www.covestro.com](http://www.covestro.com). A photo is available there for download as well. Please acknowledge the source of any pictures used.*

For more information please see [www.covestro.com](http://www.covestro.com)  
Follow us on Twitter: <https://twitter.com/covestro>

ro (2017-122E)

**Forward-looking statements**

This news release may contain forward-looking statements based on current assumptions and forecasts made by Covestro AG. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Covestro's public reports which are available at [www.covestro.com](http://www.covestro.com). The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.