

Press Release



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Covestro at JEC World 2019

Advanced composite technology for reducing the carbon footprint

More sustainable material solutions for the electronics industry

The electronics industry is facing an increasing demand for sustainable solutions to reduce the environmental impact from the manufacture, use and disposal of electronic devices. [Covestro](#) is taking care of the situation, and its new thermoplastic composite technology has proved to be a sustainable way of producing thinner, lighter and stronger components for electronic products.

A recent Life Cycle Assessment (LCA) has found a laptop cover made of [Maezio™](#) continuous fiber-reinforced thermoplastic composites from Covestro can significantly reduce the carbon footprint by more than 70 percent compared to one made from conventional aluminum-magnesium alloy.

Better environmental performance across all impact categories

The LCA study, conducted in line with ISO 14040/14044 standards and reviewed by an independent panel of LCA experts chaired by DEKRA Assurance Service GmbH, compared a comprehensive range of parameters to assess the environmental performance of a laptop A-cover made from the two materials which are typically used for premium laptops. In all impact categories and scenarios, the composite laptop A cover shows better environmental performance than the aluminum-magnesium alloy cover from the extraction of raw materials until the end of life.

Even after the implementation of current technology developments – use of low impact cover gas for aluminum-magnesium alloy and potential benefits of recycling for both materials – the composite carbon footprint is still more than 30 percent lower.



“Covestro is committed to the United Nations Sustainable Development Goals and is committed to sustainability as one of the pillars of its corporate strategy,” says Dr. Frank Buckel, responsible for sustainability at the Polycarbonates segment at Covestro. “The ecological impact of novel materials like Maezio™ during the complete lifecycle is assessed to ensure that these materials reduce the impact on the environment.”

Pushing boundaries

“Thermoplastic composites are ideally suited for producing thinner, lighter and more robust parts for IT devices that meet the needs of tomorrow,” says Lisa Ketelsen, head of the thermoplastic composites business at Covestro. “The fact that Maezio™ thermoplastics are not only mechanically competitive but also environmentally advantageous will provide the electronics industry and many other industries with a powerful solution for reducing carbon footprint and reaching their sustainability targets.”

Compared to aluminum-magnesium alloys, Maezio™ composites can also achieve weight reductions of approximately 15 percent, and the composite A cover exhibits a similar good bending and torsional rigidity compared to the metallic material. Moreover, the composite A cover meets the v-0 classification of Underwriters Laboratories' UL 94 standard.

Previously Covestro received a European Plastics Innovation Award for its composite “A-cover” for next-generation laptops in 2017. The development received the second prize in the [“Best Lightweight Innovation”](#) category.

The composite technology also enables fast and efficient production of electronic parts, by combining the three conventional steps of preheating, thermoforming and functional integration into a single process. There are two positive results: substantially lower costs and shorter cycle times.

Maezio™ composites are based on continuous carbon or glass fibers impregnated with polycarbonate, thermoplastic polyurethane (TPU) or other thermoplastic resins.

About Covestro:

With 2018 sales of EUR 14.6 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 16,800 people (calculated as full-time equivalents) at the end of 2018.

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