

Press Release



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Cooperation with mobile phone manufacturer Fairphone

Covestro
Communications
Leverkusen
Germany

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

Contact
Richard Fu
Telephone
+86 8020 8452
Email
richard.fu
@covestro.com

Covestro supports circular material solutions for smartphones

- **Use of partly recycled thermoplastic polyurethanes and polycarbonates**
- **Material solutions reduce greenhouse gas emissions**
- **In line with Fairphone's modular design philosophy**

[Covestro](#) is collaborating with [Fairphone](#), a Dutch social enterprise building a market for ethical smartphones, on the use of circular material solutions for its smartphones. Fully and partly recycled thermoplastic polyurethanes (TPU) are used in the protective case of the [Fairphone 3](#) and its successor, the Fairphone 4, and partly recycled polycarbonates are additionally used in the newer device.

Products from Covestro's post-consumer recycled (PCR) polycarbonate portfolio are used in the Fairphone 4's rear device cover, middle frame and wireless charger. With a PCR content of 30 to 50 percent, this Makrolon® portfolio has physical properties comparable to virgin material and offers good impact strength, balanced flow behavior, and high stiffness and flame retardancy to ensure a long service life while reducing CO₂ emissions by 30 percent compared to virgin material¹.

Covestro has also developed a new range of recycled and partially recycled TPUs of the Desmopan® brand, which are now used in the protective cover of the Fairphone 4 and are certified according to RCS (Recycled Claim Standard), an international standard for the traceability of recycled raw materials within supply chains.

¹ The assessment is based on a life cycle analysis from resource extraction to the factory gate (cradle-to-gate) in accordance with ISO standards 14040 and 14044.



This includes the product Desmopan® 3095AU RC100, which was developed after identifying several streams of post-industrial recycled plastics. The fully recycled material exhibits the typical advantages of TPU, for example, high chemical and abrasion resistance, but easier processability because it melts at lower temperatures and flows better than virgin material. The product has proven itself when used in the protective case of the Fairphone 3 and is now being used in the Fairphone 4. It is available in three color variants: gray, green and pink.

Modular design favors better repairability

Fairphone devices are known for their modular design, which favors better repairability. Such a design requires materials with robust mechanical properties to enable repeated disassembly and repair. The glass-fiber-reinforced grade of the Makrolon® PCR portfolio offers a good solution for the heavily stressed center frame of the Fairphone 4. The increased stiffness and impact resistance are in line with Fairphone's modular design approach. Covestro thus also supports a mono-material approach in each case for the use of polycarbonates in the housing and TPU plastics in the protective cover to facilitate recycling of the smartphones at the end of their useful life.

"With the help of our post-consumer recycling portfolio, we support Fairphone in achieving its sustainability goals. This includes particularly robust material solutions that enable a modular design of Fairphone products and promote their repairability," says Nan Hu, VP Head of Global Industrial Marketing Electronics & Electrical in the Engineering Plastics business entity at Covestro. "Such projects and collaborations are in line with our vision to become fully circular."

"With a shared mission to create a more equitable and sustainable future, Fairphone is pleased to collaborate with Covestro and use its recycled and recyclable materials solutions in our Fairphone 4. We believe Covestro can help us work towards a circular economy that creates a more sustainable world. This is just a first step, and we will continue to support Covestro in developing more sustainable materials," says Wayne Huang, VP Product Operations at Fairphone.

About Fairphone:

Fairphone is building a market for ethical phones and motivating the industry to act more responsibly. We design, produce and sell smartphones to uncover the supply chain behind our products, raise awareness for the most urgent issues, and prove that it's possible to do things differently. Together with our partners and collaborators, we're working to make caring for people and the planet a natural part of doing business.

About Covestro:



With 2020 sales of EUR 10.7 billion, Covestro is among the world's leading polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative, sustainable solutions for products used in many areas of daily life. In doing so, Covestro is fully committed to the circular economy. The main industries served are the automotive and transportation industries, construction, furniture and wood processing, as well as electrical, electronics, and household appliances industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. At the end of 2020, Covestro has 33 production sites worldwide and employs approximately 16,500 people (calculated as full-time equivalents).

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. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.