

# Press Release



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Greater efficiency in wind turbine production

## Asia's first rotor blade made of polyurethane

### Major breakthrough in China with new resin system

Covestro has now manufactured the first polyurethane rotor blade for wind turbines in Asia. The 37.5 meter-long rotor blade, which is designed for a wind turbine with an output of 1.5 megawatts, was fabricated with a special polyurethane infusion resin from Covestro and glass fiber mats from Chongqing Polycomp International (CPIC), a leading Chinese glass fiber manufacturer at the Shanghai FRP Research Institute. A vacuum pressure infusion system with continuous degassing, developed by process technology specialist HÜBERS, was used to produce the rotor blade.

Kim Klausen, global head of the Wind Energy Program at Covestro, is much pleased with this new milestone: "It's further proof of the performance and cost advantages of polyurethanes over epoxy resins in wind power generation." The polyurethane resin has very good physical properties, an excellent flowability and it thoroughly wets the glass fibers. Furthermore, less thermal energy is released during its processing than with epoxy resins.

### More efficient wind power generation with polyurethane

"The faster curing significantly improves productivity," says Kim Klausen, "and that gives manufacturers a major cost advantage." The resin was developed in close collaboration between the Covestro Wind Competence Center in Denmark and the Polymer Research Development Center (PRDC) of Covestro in Shanghai.

Covestro researcher Dr. Chenxi Zhang recently presented the new development at the China Summit Forum 2016 for International Wind Power Composite Materials in Zhejiang. He explained to the more than 500 wind power experts



the advantages of the polyurethane system and the progress Covestro has made working together with glass fiber suppliers, process engineering partners and rotor blade manufacturers.

#### **Collaboration with wind power partners**

At the summit, Dr. Roland Stoer, general manager of WINDnovation, a leading rotor blade design company, said about the use of polyurethane: "We would like to optimize rotor blade design and take full advantage of the benefits of polyurethanes. We are impressed by Covestro's research capability and commitment, and would like to cooperate with the company to design even more sophisticated rotor blades in the future."

In the latest report on the Chinese government's progress, Prime Minister Keqiang Li called for a higher percentage of clean energy, a move that would encourage the further expansion of wind power systems in China. In this year alone, China is expected to add more than 30 gigawatts to its installed wind power capacity.

#### **About Covestro:**

With 2015 sales of EUR 12.1 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, electrical and electronics, construction and the sports and leisure industries. Covestro, formerly Bayer MaterialScience, has 30 production sites around the globe and as of the end of the first quarter 2016 employed approximately 15,700 people (full-time equivalents).

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