# Press Release

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Innovative technology drives growth in the wind power industry

## Covestro delivers first ever order of polyurethane resin for wind blades

**Resin enables longer and stronger blades than traditional materials**

Covestro, a leading global supplier of high-performance polymer materials, has delivered its first commercial order of polyurethane raw materials for wind blades to China. China is the world's largest wind power market with 221 GW of installed capacity at the end of 2018, according to the World Wind Energy Association.[1] The blades, produced by Zhuzhou Times New Material Technology (TMT), one of the largest manufacturers of wind blades in China, have then been delivered to Envision, a leading global wind turbine technology company. They are scheduled to be installed in a wind farm in East China in July 2019.

Covestro delivered polyurethane resin to TMT for the production of 18 polyurethane wind blades of 59.5-meter-length, also for the spar caps and shear webs. These blades were delivered to Envision, heralding the successful deployment of Covestro's innovative polyurethane resin in blades for commercial wind farm projects.

To ensure successful deployment, the Covestro wind power team produced a prototype of the wind blades which has passed static and fatigue tests. The prototype was put into trial operation at a wind farm in central China in 2018.

[1] https://wwindea.org/blog/2019/02/25/wind-power-capacity-worldwide-reaches-600-gw-539-gw-added-in-2018/

**Polyurethane resin – a game-changing innovation**
Ulrich Liman, Global Head of R&D, Business Unit Polyurethanes at Covestro said, “We are very excited to be working with Envision and TMT on this first sales order of PU wind blades in China. Polyurethane resin in the production of wind blades, is a game-changing innovation delivered by Covestro teams around the world. We remain committed to our vision of creating products that benefit society and improve people’s lives all over the world.”

Zilu Liang, Deputy Chief Engineer, Wind Power Products at TMT, said, “As an innovative material, polyurethane, compared to epoxy resin, has advantages in costs and in the production process. We have cooperated with Covestro since 2016, and now we have achieved continuous production. We hope to further collaborate with Covestro to explore large-scale wind blades and wind blades completely made of polyurethane.”

**Superior properties**
Covestro’s novel polyurethane infusion resin was developed to help the wind power industry meet the growing demand for longer wind blade designs. Wind turbine rotor blades of this kind are typically made out of fiberglass-reinforced resin by applying vacuum infusion technology. The successful use of polyurethane resin for manufacturing large-scale rotor blades for wind turbines suggests that the material itself features superior mechanical properties and anti-fatigue performance. There are also benefits for the production processes in the wind blade factory, for example, a faster curing process and better processing properties todeliver higher productivity levels.

Irene Li, Head of PU Application Development Asia Pacific at Covestro, summarized, “This is the first step to realizing the industrialization of polyurethane resin in the wind industry, opening up a new chapter in polyurethane chemistry. We believe that our polyurethane solution delivers significant advantages in wind blade production and along the value chain.”

**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.

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

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