

# News Release

## The wind of change through long glass fibers in fan impellers

- **Danish manufacturer Multi-Wing uses Ultramid® Structure LFX as a substitute for metal in axial fans**
- **New long glass fiber-reinforced polyamide with high weld strength and creep resistance**

One of the leading manufacturers and developers of axial impellers, Denmark-based Multi-Wing International A/S, uses BASF's new long glass fiber-reinforced polyamide Ultramid® Structure B3WG10 LFX in the production of the hubs of their new mixed flow fan. These hubs are circular parts fitted on axles or pulleys which then transfer the circular motion to the fans. Fan impellers are used in ventilation, for example in tunnel ventilation systems, engine cooling systems and air-conditioning systems. A new polyamide fiber system provides an improved fiber bonding within the plastics which results in a more stable fiber skeleton structure. The key features of the material are its extremely good weld line strength and creep resistance, particularly at high temperatures, which make it ideal as a substitute for metal.

Axial fans are subjected to high speeds and undesirable natural oscillations and vibrations. Due to its high weld line strength and creep resistance, Ultramid Structure LFX can withstand these extreme stresses and thus provides protection against damage and excessive deformation of the plastic. Its high notched impact strength also means that the material can absorb impact and shock energy at low temperatures down to -30 degrees Celsius without breaking. The plastic also has good heat resistance. It retains its mechanical

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properties over a wide range of temperatures and as a result exhibits very good, long-lasting dimensional stability even at elevated temperatures. “In numerous series of tests we have found that the material can withstand extreme centrifugal forces. The stable fiber network makes it ideal for heavy loads and therefore a good alternative to metals in the production of our hubs”, explains Victor Silbermann, Development Manager at Multi-Wing. Both, working extremely closely with BASF and the consultation throughout the development phase have also enabled the company to continuously optimize processes and molds.

Ultramid Structure LFX is easy to process and ensures trouble-free production, making it a very versatile material to use. Andre Schäfer of Application Development for Engineering Plastics at BASF goes on: “We have optimized the material’s properties to such an extent that the plastic has proved a good investment in a number of other applications and current client projects”.

The extensive Ultramid Structure LFX portfolio consisting of PA 66 and PA 6 together with specialty polymer grades is available immediately in commercial volumes and with detailed material data.

Further information on Ultramid Structure LFX by BASF is available via email: [Ultraplaste.infopoint@basf.com](mailto:Ultraplaste.infopoint@basf.com) or via phone +49 (0) 621 60-78780.

Ultramid online: [www.ultramid.de](http://www.ultramid.de)

### **About BASF’s Performance Materials Division**

BASF’s Performance Materials division encompasses the entire materials know-how of BASF regarding innovative, customized plastics under one roof. Globally active in four major industry sectors - transportation, construction, industrial applications and consumer goods – the division has a strong portfolio of products and services combined with a deep understanding of application-oriented system solutions. Key drivers of profitability and growth are our close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis to develop innovative products and applications. In 2014, the Performance Materials division achieved global sales of € 6.5 bn.

More information online: [www.performance-materials.basf.com](http://www.performance-materials.basf.com)

### **About BASF**

At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of over €74 billion in 2014 and around 113,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at [www.basf.com](http://www.basf.com).