

LANXESS markets new polyamide 6 for engine oil pans

Extremely tough – even at low temperatures

- **Rubber modification increases notch impact resistance**
- **Good stiffness and strength**
- **Meets OEM specifications**

Cologne – Passenger vehicles frequently are equipped with engine oil pans made of plastic. They incorporate the oil sump and, by nature of their function, are located at the lowest point of the oil circuit, meaning right above the road. LANXESS developed Durethan BKV 235 H2.0 XCP specifically for oil pans that have to offer high resistance to stone impact and the underbody hitting the ground, and that are not otherwise protected by sheet metal or other cover materials. The polyamide is rubber-modified and reinforced with 35 percent special short glass fibers. The abbreviation XCP stands for Extreme Crash Performance and therefore also for the material's high toughness. "Our structural material is characterized by outstanding Charpy notch impact resistance at low temperatures. Although it contains a rubber-based toughness modifier, its stiffness and strength remain on a high level," explains Detlev Joachimi, head of Durethan product development at LANXESS.

Oil pans with high mechanical strength

The new material fulfills the specifications of various car makers for the low-temperature impact resistance of plastics in exposed engine oil pans. At -30 °C, the Charpy notch impact resistance is 18 kJ/m² (ISO 179-1eA). As a comparison, Durethan BKV 35 H2.0, a standard polyamide 6 with 35 percent glass fibers, achieves 10 kJ/m² at this temperature. Compared to the standard polyamide 6, the e-modulus and tensile stress at break of the new material are insignificantly lower at 9,500 MPa and 164 MPa respectively (dry as molded, ISO 527-1,-2). "As a result, we can design oil pans that meet strict

LANXESS AG

Corporate Communications
50569 Cologne
Germany

Frank Grodzki
Head of General Press and
Trade & Technical Press
Phone +49 221 8885-4043
frank.grodzki@lanxess.com

Michael Fahrig
Corporate Communications
Spokesperson Trade & Technical
Press
Phone: +49 221 8885-5041
michael.fahrig@lanxess.com

Page 1 of 3

demands in terms of stiffness and strength, but also display very high impact resistance,” explains Joachimi.

High heat distortion temperature

Another advantage of this innovative material is its good flow properties and high heat resistance. The heat distortion temperature to ISO 75-1,-2 (HDT A, 1.8 MPa) of 203 °C is nearly as high as that of Durethan BKV 35 H2.0. “The oil pans can therefore be exposed to high continuous operating temperatures without any difficulty,” says Joachimi.

Potential applications in winter sports equipment

With its good resistance at low temperatures, the polyamide also has good prospects outside the car segment, for instance in winter sports. “Conceivable applications include components for ski bindings, sleds and snow mobiles,” says Joachimi.

Detailed information on properties, applications and processing technologies for Durethan and Pocan can be found in the TechCenter of the LANXESS High Performance Materials business unit under www.durethan.com and www.pocan.com.

LANXESS is a leading specialty chemicals company with sales of EUR 7.9 billion in 2015 and about 16,700 employees in 29 countries. The company is currently represented at 55 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, specialty chemicals and plastics. Through ARLANXEO, the joint venture with Saudi Aramco, LANXESS is also a leading supplier of synthetic rubber. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World) and FTSE4Good.

Cologne, October 19, 2016
mfg/rei (2016-00078e)

Forward-Looking Statements

This news release may contain forward-looking statements based on current assumptions and forecasts made by LANXESS AG management. Various known and

LANXESS AG
Corporate Communications
50569 Cologne
Germany

Frank Grodzki
Head of General Press and
Trade & Technical Press
Phone +49 221 8885-4043
frank.grodzki@lanxess.com

Michael Fahrig
Corporate Communications
Spokesperson Trade & Technical
Press
Phone: +49 221 8885-5041
michael.fahrig@lanxess.com

Page 2 of 3

News Release

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

Information for editors:

All LANXESS news releases and their accompanying photos can be found at <http://press.lanxess.com>. Recent photos of the Board of Management and other LANXESS image material are available at <http://photos.lanxess.com>. TV footage can be found at <http://globe360.net/broadcast.lanxess/>.

You can find further information concerning LANXESS chemistry in our WebMagazine at <http://webmagazine.lanxess.com>.

Follow us on Twitter, Facebook, LinkedIn and YouTube:

<http://www.twitter.com/LANXESS>

<http://www.facebook.com/LANXESS>

<http://www.linkedin.com/company/lanxess>

<http://www.youtube.com/lanxess>

LANXESS AG

Corporate Communications
50569 Cologne
Germany

Frank Grodzki
Head of General Press and
Trade & Technical Press
Phone +49 221 8885-4043
frank.grodzki@lanxess.com

Michael Fahrig
Corporate Communications
Spokesperson Trade & Technical
Press
Phone: +49 221 8885-5041
michael.fahrig@lanxess.com