

LANXESS: New thermostabilization system for Durethan-brand polyamides

### Long-term temperature resistance up to 230 °C

- **Heat aging stability equates to heat resistance**
- **First product variant with 35 percent glass fibers**
- **Blow-moldable polyamide 66 types also in development**

**Cologne** – Specialty chemicals company LANXESS has developed a new heat stabilization system called XTS2 (Xtreme Temperature Stabilization) for polyamide 66 variants of Durethan. This system increases the heat aging durability of the polyamides so much that they reach into the heat deflection temperature range. “Thanks to the new iron-free thermostabilization, our polyamide 66 variants can withstand temperatures of up to 230 °C in the long-term. They therefore provide an alternative to costly heat stabilized specialty thermoplastics, such as fully or semi-aromatic polyamides and polyphenylene sulfide,” explains Dr. Thomas Linder, a Durethan material development expert in the High Performance Materials business unit at LANXESS. The first product from the XTS2 product range is a polyamide 66 reinforced with 35 percent glass fibers (by weight), which will be marketed as Durethan AKV35XTS2. There are also plans to offer XTS2 product variants with higher and lower glass fiber contents. A blow-moldable polyamide 66 for turbo charger components of cars that is stabilized with the XTS2 system is also in development.

### Good flow characteristics and high surface quality

Compared to Durethan-brand polyamide 66 variants with the same glass fiber content containing H2.0 thermostabilization, Durethan AKV35XTS2 exhibits better flow characteristics. As Linder points out: “This makes it easier to realize delicate component geometries and thin walls.” Another advantage is the high surface quality, which is even better than similar material grades with XTS1 heat stabilization.

#### LANXESS AG

Contact:  
Michael Fahrig  
Corporate Communications  
Spokesperson Trade & Technical  
Press  
50569 Cologne  
Germany

Phone +49 221 8885-5041  
michael.fahrig@lanxess.com

Page 1 of 4

LANXESS extensively tested the high long-term temperature resistance of the new polyamide 66 by conducting hot air aging tests. “Even after 3,000 hours of storage at 230 °C, the reduction in tensile stress at break and elastic modulus is barely measurable, meaning the material maintains its initial strength and stiffness despite the high thermal load,” says Linder. The material was mainly designed for high-tech engine applications that are exposed to unusually high temperatures – such as air intake manifolds with integrated charge air coolers or air pipes located in the vicinity of the turbocharger.

### **Precisely tailored thermostabilizations**

For thermostabilization of Durethan compounds LANXESS already uses miscellaneous additive systems that are tailored to various heat resistance levels, e.g. to those of components under the hood. For example, the established XTS1 and XTS3 systems enable continuous use of Durethan at around 200 °C. Just as H3.0 thermostabilization, XTS3 benefits from a very low metal and halide content. “They are especially suitable for plastic components that come into direct contact with metal components. This is because the metal- and salt-free stabilization helps to prevent contact corrosion,” explains Linder. Typical applications include housing parts, plug connectors and connector strips. By contrast, the XTS1 and, for example, the H2.0 system are intended for black components where contact corrosion is not an issue.

LANXESS is a leading specialty chemicals company with sales of EUR 7.7 billion in 2016 and about 19,200 employees in 25 countries. The company is currently represented at 75 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, 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 17, 2017  
mfg/rei            (2017-00082e)

#### **LANXESS AG**

Contact:  
Michael Fahrig  
Corporate Communications  
Spokesperson Trade & Technical  
Press  
50569 Cologne  
Germany

Phone: +49 221 8885-5041  
michael.fahrig@lanxess.com

Page 2 of 4

### Forward-Looking Statements

This company release contains certain forward-looking statements, including assumptions, opinions, expectations and views of the company or cited from third party sources. Various known and unknown risks, uncertainties and other factors could cause the actual results, financial position, development or performance of LANXESS AG to differ materially from the estimations expressed or implied herein. LANXESS AG does not guarantee that the assumptions underlying such forward-looking statements are free from errors nor does it accept any responsibility for the future accuracy of the opinions expressed in this presentation or the actual occurrence of the forecast developments. No representation or warranty (expressed or implied) is made as to, and no reliance should be placed on, any information, estimates, targets and opinions, contained herein, and no liability whatsoever is accepted as to any errors, omissions or misstatements contained herein, and accordingly, no representative of LANXESS AG or any of its affiliated companies or any of such person's officers, directors or employees accept any liability whatsoever arising directly or indirectly from the use of this document.

### 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>

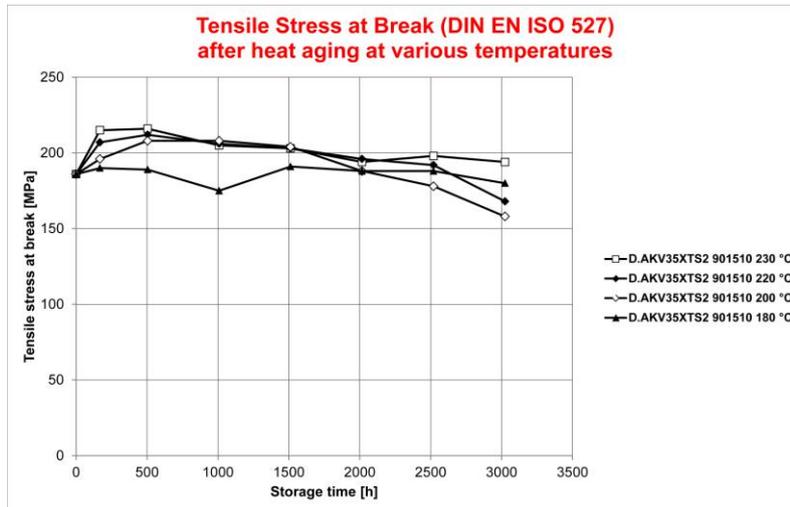
### LANXESS AG

Contact:  
Michael Fahrig  
Corporate Communications  
Spokesperson Trade & Technical  
Press  
50569 Cologne  
Germany

Phone: +49 221 8885-5041  
[michael.fahrig@lanxess.com](mailto:michael.fahrig@lanxess.com)

Page 3 of 4

## Picture



Even after 3,000 hours of storage at 230 °C in hot air, the reduction in tensile stress at break of Durethan AKV35XTS2 was barely measurable. Photo: LANXESS AG

## LANXESS AG

Contact:  
Michael Fahrig  
Corporate Communications  
Spokesperson Trade & Technical  
Press  
50569 Cologne  
Germany

Phone: +49 221 8885-5041  
[michael.fahrig@lanxess.com](mailto:michael.fahrig@lanxess.com)