

LANXESS supports strong growth in composites applications

New processing brochure and new Automotive project group for Tepex

- **Pooling expertise in materials and processing**
- **Use in wide range of applications and processes**

Cologne – Demand is on the rise worldwide in the automotive industry for Tepex-brand continuous-fiber-reinforced thermoplastic semi-finished composites for lightweight construction applications. Specialty chemicals company LANXESS has therefore set up a project group that is geared to the needs of the global automotive industry and supports partners through all stages of Tepex component development right up to production launch. The group – Tepex Automotive Technical Marketing & Business Development – pools all the expertise of LANXESS and its subsidiary Bond-Laminates in materials, processes, and the selection of suitable components for automotive lightweight construction with Tepex. “Our main job is to work with partners right from the concept phase and to lay the groundwork for ensuring that component development is successful in terms of material, weight, processing and costs,” says Martin Klocke, head of the group in the High Performance Materials business unit (HPM).

Internationally networked services

The team acts as an interface between the CAD concepts, component/process design and simulation, the mold makers and the equipment manufacturers for processing and handling Tepex. In its work, the team relies on HPM's established and innovative HiAnt service, now expanded to include Tepex, and supports the business unit's sales department in automotive customer projects. “Our expertise and services are available locally all over the world thanks to the global network of regional product and application development

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

centers that LANXESS has established. We can therefore assist international development partners at all their locations, with everything from the first application idea to starting up large-scale production,” says Klocke.

The way it works – comprehensive information on Tepex

Due to the tremendous interest in Tepex, LANXESS is publishing a brochure on Tepex processing for the K 2016 trade fair in Düsseldorf, Germany. It provides information on the advantages of the thermoplastic composite, its potential in lightweight construction and the product families, and it covers in detail the many methods for processing Tepex, such as thermoforming and hybrid molding. Extensive sections address techniques for heating Tepex as well as the design and calculation of components by draping and integrative simulation. Recommendations are provided on mold design and how to handle hot Tepex inserts. The final section offers tips on finishing, joining and recycling Tepex components. The brochure is directed at engineers, but also readers interested in the technology who work, for instance, in marketing or purchasing. It will be available at K 2016 at the LANXESS stand and for download at www.tepex.de.

Wide range of applications

Tepex is developed and manufactured by LANXESS subsidiary Bond-Laminates, based in Brilon, Germany. The thermoplastic continuous-fiber-reinforced composite has become established in a variety of applications in automotive lightweight construction over the last few years. Used initially to locally reinforce plastic areas in front-ends, today it is used to manufacture seat shells, back rests, brake pedals, battery carriers, infotainment brackets and underbody panels. Just recently, the world's first, hybrid-molded rear bumper beam went into production for the Clarity Fuel Cell, the new fuel cell car from Honda.

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

New applications thanks to new materials and processes

The growing success of Tepex also results from the continuous expansion of its product range. One example is new, multiaxial Tepex. "This helps to enhance the mechanical performance of components, because the orientation of the reinforcing fiber layers can be adapted to the flow of forces in a component and thus to stress scenarios," explains Klocke. The new structural material is production-ready and will soon be introduced to the market in the first applications.

"The application range of Tepex is also expanding because more and more methods for processing it are being developed, such as hybrid molding, compression molding and form pressing in combination with other materials like DLFT and LWRT," Klocke continues. One very promising example is a new method that combines Tepex with local tape reinforcements. "The unidirectional fiber orientation of the tapes makes it possible to slightly increase the proportion of fibers in the direction of load and thus to further improve the mechanical performance of the component," explains Klocke. This technology, developed jointly by Bond-Laminates, the Fraunhofer Institute for Production Technology and HBW-Gubesch Thermoforming GmbH, recently received an award in the "Processes" category at the JEC 2016 Innovation Awards in Atlanta, United States.

For more detailed information on Tepex properties, applications and processing technologies, go to www.bond-laminates.com.

LANXESS is a leading specialty chemicals company with sales of EUR 7.9 billion in 2015 and about 16,600 employees in 29 countries. The company is currently represented at 52 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, June 28, 2016
mfg/rei (2016-00056e)

LANXESS AG

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

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

Page 3 of 4

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 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

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

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

Page 4 of 4