News Release

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LANXESS at the international trade fair for plastics processing Fakuma 2021

- **Bio-based composite material based on flax and polylactic acid**
- **Market premiere for hollow-profile hybrid technology**
- **Cost-effective alternative to unreinforced, flame-retardant polyamide 66**

Cologne, October 7, 2021 – At this year's edition of Fakuma, LANXESS is putting sustainable material and lightweight solutions in the spotlight. "With our plastic compounds and composite materials, we want to be a trailblazer in establishing material cycles, conserving resources, and protecting the climate. That is why we are focusing on the industrial use of circular and bio-based precursors and monomers in our production activities," explains Jan Bender, Head of Marketing for EMEA at the High Performance Materials (HPM) business unit. Focus areas for LANXESS at Fakuma are the market launch of hollow-profile hybrid technology as a lightweight design technology and new halogen-free flame-retardant polyamides and polyesters. A further spotlight will be on materials and component concepts for the future market "New Mobility" – including, for example, lightweight structural components based on the continuous fiber-reinforced composites Tepex in the field of car batteries.

Compounds with high levels of recycled content

There are ISCC-certified product innovations in relation to the Pocan-branded PBT (polybutylene terephthalate) compounds – such as Pocan ECOB3235 and flame-retardant ECOB4239, both of which are reinforced with 30 percent by weight of recycled glass fibers (mass balance method).

Appealing natural look

LANXESS is also expanding its range of Tepex continuous-fiber-reinforced thermoplastic composites with the addition of particularly sustainable variants. In this manner, the specialty chemicals

company is offering a composite material with a level of quality suitable for large-scale production that is manufactured entirely from natural resources. It features a combination of flax fabrics and bio-based polylactic acid as a matrix material. This yields surfaces with a brown, natural look that emphasize the natural origin of the compound. Its weight-specific strength is roughly at the same level as that of a conventional Tepex dynalite, which is reinforced with glass-fiber fabric. “It could be used in sporting goods, interior parts for cars, and electronic housing components, for example,” says Bender. With its purely thermoplastic matrix, the new flax composite is fully recyclable, as are its fossil-based Tepex “siblings.” It takes its place in the product range beside sustainable materials such as a Tepex dynalite, which has a matrix obtained from recycled polycarbonate water bottles.

Hollow-profile hybrid technology to be launched on the market

The market launch of the hollow-profile hybrid technology from LANXESS has now progressed to such an extent that the company was able to embark on a variety of development projects with customers and has already reached the prototype stage with some of them. The new lightweight design technology enables metallic hollow profiles to be functionalized by means of injection molding. Lightweight components currently in development include cross car beams that boast far greater torsional stiffness and strength than components produced using the “traditional” plastic-metal hybrid technology. The optimization of the process combined with innovative tolerance management means that it is now also possible to functionalize hollow profiles using a reliable process without an internal support element for the profiles. Bender: “We have simulation tools that precisely reproduce the production process and the quality of the connection between the metal and plastic. For example, we can accurately predict the load behavior of the hollow-profile hybrids.”

Highly flame-retardant; high elongation at break

At Fakuma, LANXESS is presenting, among other things, a new halogen-free flame-retardant and unreinforced polyamide 6

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compound. It passes the UL 94 flammability test from US testing institute Underwriters Laboratories Inc. in all colors with the classification V-0 (0.4 to 3.0millimeters) and was designed as a cost-effective alternative to equivalent polyamide 66 compounds. “It is particularly suitable for the large-scale production of components with thin wall thicknesses such as terminal strips,” explains Bender. One of the material’s strong points is its high elongation at break, even when it is freshly molded, which means that components can be mounted immediately after production.

Fakuma will take place from October 12 to 16, 2021, at Friedrichshafen Exhibition Center. LANXESS will be there at stand 4209 in hall B4. At a press briefing on October 13, the specialty chemicals company will present a new sustainable engineering plastics grade that has a particularly low carbon footprint and meets various aspects of sustainability and circular economy.

You can find more detailed information about the Durethan polyamides, Pocan polyesters and Tepex composites from LANXESS at www.engineering-plastics.lanxess.com.

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LANXESS is a leading specialty chemicals company with sales of EUR 6.1 billion in 2020. The company currently has about 14,800 employees in 33 countries. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

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