

LANXESS showcases innovative premium plastics and high-performance rubbers at “K 2010”

- **Numerous new product developments and technologies from Leverkusen, Dormagen and Krefeld-Uerdingen**
- **North Rhine-Westphalia’s Minister of Economic Affairs visits LANXESS stand**

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Leverkusen – “Innovations in Polymers – Energized by LANXESS” is the specialty chemical group’s slogan for “K 2010”, the world’s largest plastics trade show, in Duesseldorf, Germany. At a stand extending over some 1,300 square meters, LANXESS is presenting the latest developments in materials, processes and technologies for premium plastics and high-performance rubbers. “This slogan and the design of our stand underline our commitment to innovation. We provide highly effective material, process and technology solutions in response to the challenges thrown up by our key markets and global megatrends such as mobility and urbanization,” says Werner Breuers, member of the Board of Management of LANXESS AG. This is also illustrated by the items on show from the various exhibiting business units – Butyl Rubber (BTR), Performance Butadiene Rubbers (PBR), Technical Rubber Products (TRP), Rubber Chemicals (RUC), Semi-Crystalline Products (SCP), Functional Chemicals (FCC) and Inorganic Pigments (IPG).

Business with plastics and rubbers – known collectively as polymers – plays a key role for the group. In 2009, it accounted for roughly 50 percent of the EUR 5.06 billion total sales figure.

Environmentally friendly lightweight construction solutions for the automotive industry

One focal point of the exhibits showcasing Durethan and Pocan, two high-performance plastics from the Semi-Crystalline Products business unit, is the megatrend of mobility. The latest applications for

innovative and environmentally friendly lightweight construction solutions – such as reducing the weight of vehicles – are a particular highlight. Just like improved safety, lower consumption and greater ranges of travel are being seen as increasingly important in the automotive sector. This trend toward lightweight construction is being further reinforced by electric cars. One example is a car front end based on plastic-metal hybrid technology that, for the first time, uses lightweight nylon composite sheet in addition to aluminum. Thanks to their excellent stiffness, these new glass fiber mats reinforced with high-performance Durethan plastics are becoming a viable alternative to metals. They also result in additional weight savings of up to 20 percent. One current application is a spare wheel recess with integrated reinforcing channels for the new Audi A8. Until now, such components have been made of metal or thermosetting plastic.

The hybrid technology patented by LANXESS has been in use for a number of years now – with considerable success. More than 40 million hybrid components in 70 vehicle classes can now be found on roads around the world. The main benefit of this plastic-metal hybrid technology is its excellent integration and weight-reducing potential. In addition to front ends, it is now also used in roof frames and brake pedal blocks in series production.

LANXESS offers visitors to “K 2010” a safe seat

Another product from the Leverkusen-based specialty chemicals group supports visitors – literally – at least when they take the weight off their feet and try out the seats at the LANXESS stand. The high-performance plastic Durethan replaces the metal supports normally used for seats in stadiums and other sports facilities. The premium plastic used to make the seat supports can withstand loads of up to 600 kg, even at the edges, and ensures absolute safety for fans. The key benefits of Durethan are its strength and durability under static and dynamic loads, its excellent UV and weather stability, and its resistance to corrosion. In addition, the supports and the seats

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themselves are shaped by the injection molding process so as to avoid any sharp edges that could injure spectators.

In addition to stadiums, LANXESS materials can also be found in kitchen appliances such as coffee machines, Thermomix bowls and meat grinders. All these technical gadgets that make life easier are on show at the LANXESS stand and they all contain premium plastics from the Semi-Crystalline Products business unit.

Premium plastics from Dormagen and Krefeld-Uerdingen

The **Dormagen** site boasts research and development expertise that plays a key role in LANXESS' plastics business. "We support our customers throughout the component development process – from the initial idea to the finished product," says Hartwig Meier, Head of Product and Application Development in LANXESS' Semi-Crystalline Products business unit. The design hub for tailored customer solutions is the state-of-the-art development center at the **Dormagen** site. The center uses computer simulation for virtual component development and testing, while universal injection molding machines produce components for test purposes.

High-performance plastics are made at the **Krefeld-Uerdingen** site. This is where LANXESS manufactures polyamide 6 and operates a plant that turns it into Durethan and Pocan. The plastics production facility in Uerdingen is one of the largest of its kind anywhere in the world. Adipic acid – an important plastic precursor – is also produced here.

Innovative rubbers for vehicles powered by natural gas

The rubbers produced by the Technical Rubber Products business unit are a further LANXESS focal point at "K 2010". The properties of special new Therban grades make them ideal for use in the pressure refueling of vehicles powered by natural gas. This high-performance synthetic rubber, which is manufactured in **Leverkusen**, is resistant

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to natural gas and remains much more flexible than other rubbers – even at a temperature of minus 40 degrees Celsius. Therban seals do not become brittle at the icy temperatures that occur during refueling, and they retain their sealing function.

A low-viscosity Therban HNBR rubber also opens up new options. This state-of-the-art special-purpose rubber, one of the most advanced of its kind, flows 1,000 to 10,000 times more easily than previous Therban grades. The innovative material is therefore ideal for processes such as liquid injection molding. LANXESS is currently examining the technical potential of this material in close cooperation with a machine manufacturer.

Therban special-purpose rubbers are developed and tested in **Leverkusen**, where LANXESS operates an ultramodern Technical Service Center for rubber. In addition to raw polymers, the center also analyzes blends and vulcanizates to improve existing products and develop new ones with optimized properties.

LANXESS is one of the pioneers of “green tires”

Cutting-edge high-performance tires will also be on show at “K 2010”. Innovative neodymium-butadiene rubbers – Nd-BR for short – from the Performance Butadiene Rubbers business unit play a key role here and offer new opportunities for tire development. Natural rubber is still one of the most elastic materials we know. One of the reasons for this lies in the uniquely regular structure of this polymer. LANXESS Nd-BR rubbers with vinyl components of less than 0.5 percent and cis components in excess of 98 percent come very close to the natural model in this regard and even exhibit significantly better figures for abrasion and rolling resistance. With Nd-BR rubbers, LANXESS will help substantially improve the rolling resistance of tires, thereby also lowering fuel consumption and CO₂ emissions. Tires currently account for 20 to 30 percent of a vehicle's fuel consumption. If all the vehicles in Europe were fitted with tires with reduced rolling resistance and thus lower fuel consumption,

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around six billion liters of fuel could be saved annually, resulting in approximately 15 billion metric tons fewer CO₂ emissions every year. As the world's leading rubber manufacturer and raw material supplier for the tire industry, LANXESS is a pioneer in the manufacture of environmentally friendly tires. **Dormagen** is one of the sites where Nd-BR is produced. LANXESS also operates an ultramodern rubber laboratory for the development of new polymer formulations at this site.

Rubbers are becoming increasingly important for "green tires" and the same goes for additives. One example is silica additive 9202 manufactured by the Rubber Chemicals business unit. Processing promoters are often added to ensure that silica is better distributed in the tire mixture. Zinc soaps are frequently used for this purpose. Such soaps, though, have significant drawbacks in that the zinc they contain can find its way into the environment through tire abrasion. Zinc soaps can also function as plasticizers in the rubber compound, thereby impairing the performance of "green tires". The highly efficient silica additive 9202 enables much better processing – without use of zinc and without a plasticizing effect on the compound.

LANXESS lights up the dark

A new lighting technology in which LANXESS is heavily involved quite literally lights up the trade show stand. The Powermoon® and Partymoon® bathe the surroundings in a pleasant light. The special feature of both these balloons is their skin, which generates excellent luminous power without the harsh glare of normal spotlights. It is a simple idea, but one that would not have been possible without Levapren – one of the most effective synthetic rubbers produced by the Technical Rubber Products business unit headquartered in **Leverkusen**. The Powermoon® is available in diameters of up to 5.5 meters. Balloons of this kind are ideal for illuminating large areas on a temporary basis with a minimum of shadows. They are extremely useful for road or track construction projects, during rescue efforts and for lighting up ski slopes at night. Four Powermoons® fit into the

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trunk of a station wagon but generate sufficient light to illuminate an area the size of a soccer field.

“Until this plastic was invented, rubberized fabrics tended to be rather opaque,” says Andreas Roos, head of Research and Development for Levapren in the TRP business unit. “But membranes made from this material provide transparency. Levapren rubber produced in **Dormagen** can be turned into highly effective skins by adding small quantities of silica filler – and in this combination, no significant proportion of the visible light is absorbed,” he adds. To keep the artificial moon high in the sky, the Levapren-coated balloon skin is filled with helium. The balloon membranes can be kept particularly thin and light thanks to the high strength of the transparent Levapren blend. The material also ensures that the moon does not deflate too quickly. In addition to offering excellent weather and UV stability, it withstands temperatures of up to 170 degrees Celsius. It is not even damaged by the Powermoon® lamps, which have an output of up to 15,000 watts. Naturally, a huge moon like this would be far too large – and expensive – for a garden party, so the Partymoon®, which has a diameter of one meter, has recently been launched for such applications.

“Rubber Street” at the LANXESS stand

In addition to presenting its own innovations, LANXESS is also once again one of the sponsors of the “Rubber Street” in Hall 6 at “K 2010”. “As the world’s leading manufacturer of synthetic rubber, we are looking to offer companies in the rubber processing industry a platform to showcase their new developments,” says member of the Board of Management Werner Breuers.

North Rhine-Westphalia’s Minister of Economic Affairs visits the LANXESS stand

This afternoon, Rainier van Roessel, Labor Director and member of the Board of Management of LANXESS AG, will welcome Harry K.

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Voigtsberger, North Rhine-Westphalia's Minister of Economic Affairs, Energy, Building, Housing and Transport, to the specialty chemical group's stand. In addition to explaining the innovations on show and providing the minister with an insight into the fascinating world of polymer chemistry, van Roessel will also discuss with him North Rhine-Westphalia's credentials as an industrial location.

LANXESS is a leading specialty chemicals company with sales of EUR 5.06 billion in 2009 and currently around 14,400 employees in 23 countries. The company is represented at 42 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of plastics, rubber, intermediates and specialty chemicals.

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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>. The latest TV footage, audiofiles and podcasts can be found at <http://corporate.lanxess.com/en/media/audio-video/>.

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

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