

Product Note

LANXESS showcases a wide range of rubber solutions at IRE 2013

- LANXESS is the main sponsor for IRE 2013 and thus the 'Chief Event Partner'
- LANXESS well-positioned to take on the market demand for high performance rubber applications

Mumbai, January 22, 2013. LANXESS, the world's largest manufacturer of synthetic rubber, and one of the largest suppliers to the tyre as well as several auto component industries, is the 'Chief Event Partner' for India Rubber Expo 2013, India's largest exhibition for the rubber industry. LANXESS offers a wide range of high grades of synthetic rubber that serve the growing demand for high-performance rubber in challenging applications, some of which it will display at its booth at IRE 2013. The company's rubber solutions are represented through its six business units – Performance Butadiene Rubber (PBR), Butyl Rubber (BTR), High Performance Elastomers (HPE), Keltan Elastomers (KEL), Rubber Chemicals (RUC) and specialized rubber chemicals, release agents and additives from LANXESS owned subsidiary Rhein Chemie (RCH).

Business Unit – Performance Butadiene Rubbers

LANXESS has announced an investment of EUR 200 mio in a 140,000 metric tons per annum facility for Nd- PBR (neodymium-based polybutadiene rubber) on Jurong Island. The facility will be the largest of its kind globally and will serve the growing market for "Green Tires", especially in Asia.

This business unit specializes in advanced polybutadiene rubbers viz high-performance solution styrene-butadiene (S-SBR) and neodymium polybutadiene rubbers (Nd-PBR). Synthetic rubber polymers such as these constitute a 'Green' tire and help improve fuel efficiency, durability and safety of a tire.

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- **Polybutadiene Rubber (PBR)** – It offers reduced heat build up, high abrasion resistance and improved fatigue properties. An advanced polymer namely, **Nd-PBR (Neodymium Polybutadiene Rubber)** offers outstanding abrasion resistance, excellent strength and high crack resistance. It is used in the tire components like the tread, sidewall and the carcass.
- **Styrene-butadiene rubber (SSBR)** - It offers excellent mechanical properties and moderate abrasion resistance. This polymer goes into the making of the tire tread. Functionalized S-SBR helps to maintain an optimum balance of rolling resistance reduction, grip as well as durability, overcoming the challenges of the magic triangle in tire performance.

Business Unit - Butyl Rubber

LANXESS - the only truly global player in butyl rubber production- is further expanding its network to serve the increasing demand for the high performance synthetic rubber used in tire and non-tire applications. The company has invested EUR 400 mio in a greenfield production facility for Butyl Rubber in Singapore, which is expected to go onstream in 2013. This makes LANXESS better equipped to supply to the markets in Asia Pacific.

- The Butyl Rubber business unit (BTR) is one of the global leaders in high-quality **Butyl** and **Halobutyl** (Chloro as well as Bromo) **rubbers** for the tire and rubber industry. These rubbers are highly impermeable to gases and liquids and are particularly useful for making inner liners and inner tubes of tires. It is also found in a remarkable range of other products such as chewing gum, protective clothing, chemical processing equipment and pipe linings and anti-vibration mountings. Halobutyl rubber is also widely used for pharmaceutical closures, syringe components and in other pharmaceutical products like sterile injection solutions, flask seals, injection plunger seals and infusion pump seals, due

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to its excellent chemical resistance, low extractables, good sealing/resealing properties and high impermeability to moisture.

Business Unit: High Performance Elastomers (HPE)

This business unit along with the advanced polymer EPDM (Keltan®) provides solutions that meet the needs of challenging applications for the increasingly quality conscious auto and two wheeler consumers. New technology, more sophisticated design (e.g. compact vehicles, tubeless tires in 2 wheelers), competitive market are some of the factors that are pushing the envelope in terms of rubber technologies for automotive components.

- **Therban** - Hydrogenated nitrile rubber (HNBR) - Therban is an innovative new rubber product based on Nobel Prize-winning research and meant to tolerate extreme environments durably. Due to its unique chemical structure, Therban allows for increased flexibility in processing, while at the same time decreasing energy requirements and processing time.
- **Nanoprene** - is an innovative rubber additive that, when added to a tire's treads, can significantly improve the tire's grip on wet roads as well as resistance to abrasion. This increases fuel efficiency, which translates to lower carbon emissions. Unlike other chemical additives that improve abrasion resistance and wet grip, Nanoprene does not affect other tire parameters adversely. Nanoprene also significantly reduces emissions of rubber particles from a tire and increases its lifespan. Moreover, Nanoprene can be used as a component in fuel cells, where it raises the reaction temperature from 60 degrees Celsius to 200 degrees Celsius. This translates to much higher engine efficiency for engines under development for future generations of cars.
- **Perbunan®** - A series of special applications in the automotive and construction industries would not be possible without Perbunan®. The brand represents a range of oil-resistant

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acrylonitrile-butadiene rubbers (NBR) with better physical properties, heat aging resistance and abrasion and wear behavior.

- **Levapren®** - It is a highly sophisticated material from LANXESS which offers an impressive range of characteristics. Due to its outstanding compatibility with a number of fillers and polymers and its low viscosity, Levapren® is an ideal solution for a variety of formulation issues encountered when using conventional rubber substances. It offers high resistance to aging, heat, UV and ozone and is ideal for the manufacture of transparent and translucent products. For example, it is used in making fuel hoses for its flame resistant properties and as Halogen-free hose cover which reduces the risk of engine fire.

Business Unit – Keltan

LANXESS is the world's leading supplier of EPDM (ethylene propylene diene monomer) following the successful acquisition and integration of DSM Elastomers in 2011. LANXESS is the world's leading supplier of EPDM (ethylene propylene diene monomer) following the successful acquisition and integration of DSM Elastomers in 2011, and is the only one with presence in Europe, USA and China. Recently, LANXESS has announced that it will invest a sum of EUR 235 mio in setting up a new production facility for EPDM in China. Global demand for EPDM is expected to increase by more than four percent per annum in the coming years and LANXESS is a reliable supplier to customers worldwide.

- **EP(D)M** - The molecules of both EPM and EPDM have a completely saturated hydrocarbon backbone, through which excellent ozone resistance and very good resistance to heat and oxidation are achieved. Its heat resistance is distinctly better than that of Natural Rubber, SBR and Butadiene Rubber. Marketed under the brand name Keltan®, the elastomer offers high product quality, high supply reliability and high service level enables high performance for manufacturers, products and industrial solutions.

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The Keltan® portfolio consists of a broad range of global grades with a diversity of properties that offer freedom in recipe formulations, product design and processing windows. This, in turn, allows manufacturers to optimize between product performance and cost efficiency.

Business Unit: Rubber Chemicals (RUC)

LANXESS is a reliable supplier of rubber chemicals which offers consistent quality, advanced technology and strict compliance with environmental norms and regulations. LANXESS has been providing rubber chemicals to the Indian market for about four decades now and is certain to be a long term player. The company has a production facility for rubber chemicals in Jhagadia which caters to India as well as overseas markets. The most important applications are for the tire and in rubber related applications for the automotive industry.

- **Vulcuren®** is a successful cross linking and anti-reversion agent that can create highly heat-stable yet flexible hybrid-cross links. Vulcuren® has also proven its effectiveness in products based on NR or blend with BR /SBR rubbers like in truck and passenger car tires. Comparative measurements of tread depth prove that the cross linker reduces abrasion, leads to higher mileage of new tires as well retreaded tires.
- **Perkalink®** - anti-reversion agents which repair the network by forming thermally stable crosslinks (Diels-Alder addition reaction), hence offers high retention of physical properties at higher temperatures.
- **Specialty plasticizers - Vukanol FH** – It is a good tackifier for synthetic rubbers compounds, also improves incorporation & dispersion of fillers which leads to better physical properties, better extrusion as well moulding characteristics.

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Business Unit: Rhein Chemie (RCH)

The Rhein Chemie business unit (RCH) develops, produces and markets additives, specialty rubber chemicals and service products for the rubber, lubricant and plastics industries. With the commencement of production of Rhenogran and Rhenodiv at Jhagadia in January 2012, LANXESS in India is well positioned to cater to the market demand here.

Rhein Chemie is the market leader in polymer bound rubber chemicals, release agents and additives. The LANXESS subsidiary is also likely to expand capacities at its production facility in Jhagadia in due course of time.

Rhein Chemie offers customers tailor-made solutions for any kind of rubber applications and with its several environment-related benefits, they are well suited for 'Green Mobility' related applications in the transportation sector. It supplies the rubber industry with a broad portfolio of predispersed chemicals, processing promoters and release agents, vulcanization and filler activators, anti-sun check waxes and antiozonants, tire marking inks, and high-performance curing bladders for tire manufacture.

- **Rhenogran®** - As a leading supplier of solutions to problems, LANXESS offers a complete range of service products and specialties for the rubber industry worldwide: Predispersed chemicals in various supply forms ready to achieve the required level of quality and performance, Processing promoters and release agents which enable economic processing; Polymers and powdered specialty chemicals which meet specific requirements of technical rubber goods
- **Rhenoshape** - With Rhenoshape® curing bladders and its comprehensive portfolio of Rhenodiv® release agents Rhein Chemie is providing tire manufacturers a one-stop solution for both release agents and bladders. Rhenoshape® curing bladders stand for optimal design, a strict manufacturing process, and continuous research and development to ensure consistence in

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quality, performance, and service life. Rhenoshape® curing bladders are offered for Bom, Krupp, Autoform, Autolok, and Kobe presses. The push for increased productivity in the tire industry has led to shorter tire cure times by raising cure temperatures and diminishing bladder wall gauge. Both factors demand premium-quality high-performance bladders that can withstand these changes and maintain their uniformity. Rhenoshape® curing bladders are especially designed to meet these requirements.

LANXESS' technical experts work as partners, hand-in-hand with its customers to meet specific needs with pioneering and custom made rubber solutions. With its range, the company provides rubber solutions for rising requirements in challenging applications and is constantly challenging its research and development teams to push the technological envelope.

About LANXESS

LANXESS is a leading specialty chemicals company with sales of EUR 8.8 billion in 2011 and currently around 17,100 employees in 31 countries. The company is currently represented at 48 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of plastics, rubber, intermediates and specialty chemicals. LANXESS is a member of the leading sustainable indices Dow Jones Sustainability Index (DJSI) World and FTSE4Good as well as the Carbon Disclosure Leadership Index (CDLI).

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://multimedia.lanxess.com>.

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

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