News Release

BASF at SIMAC 2015 in Milan:
Polyurethane innovations for the footwear industry

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- **New Elastopan® PU systems for extreme frost, strong hydrolytic requirements and boots**
- **Renewable materials for footwear**
- **Premiere: The award winning shoe concept from the design contest of Politecnico Calzaturiero 2014 in Padua**

Meet us at SIMAC 2015,
Milan - Rho
February, 25-27, 2015,
hall 14, booth F 38

This year the chemical company BASF presents its updated polyurethane portfolio and experience in footwear materials and processing at the SIMAC International Exhibition of Machines and Technologies for Footwear and Leathergoods Industries in Milan (Rho). The company's experts invite all visitors to discuss BASF's Elastopan® PU systems and Elastollan® TPU innovations for the shoe industry at booth F 38 in hall 14 from February 25 through 27.

Highlight: The award-winning shoe from Politecnico Calzaturiero

In 2014, the School of Footwear Design and Technology Politecnico Calzaturiero, in Capriccio di Vigonza near Padua, awarded a prize for its eighth design contest realized in cooperation with BASF. This time the task was to develop an innovative design of a sneaker using polyurethanes. The winning project presents a sneaker suitable for cycling and street walking with an interesting design and a clever use of different PU and TPU materials.

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New Elastopan® PU systems for extreme frost, strong hydrolytic requirements and boots

Especially for use in very cold weather conditions, BASF now offers a family of PU systems under the name Elastopan® Extreme Frost. The most important feature here is the combination of the special flexural performance at extremely low temperatures with a very high slip resistance on wet and icy surfaces, low abrasion and good shock absorption. These properties make the Extreme Frost systems of Elastopan® suitable for even Arctic and Siberian working shoes. In contrast to standard systems, soles made from this new material show a flexural strength at minus 45°C of more than 50,000 cycles in Canadian Ross flex test and over 8,000 cycles under Russian GOST conditions.

The second highly interesting innovation is the polyester-based Hydrolysis Plus, a new Elastopan® PU System as well. Shoemakers can use it for the higher-density outsoles as well as for the lower-density midsoles and for leisure as well as for safety shoes. However, it is specifically designed and shows its benefits mainly in single density soles for street and casual shoes. Elastopan® Hydrolysis Plus brings a major advance in hydrolysis resistance: Relative loss of hardness after the standard hydrolysis test (100% relative humidity, 21 days at 70 °C) was less than 15%. Under the same conditions, the tensile strength was reduced by less than 30%. Even the most hydrolysis resistant materials in the market lose more than 50% tensile strength under such severe testing conditions. These properties of Elastopan® Hydrolysis Plus ensure very high durability under extremely hot and humid conditions.

Finally, the polyester-based Elastopan® PU System for boots has been improved regarding leg’s flowability, bonding between leg and sole and provides resistance against fungal and bacterial attack.

Elastopan® and Elastollan®: manufactured based on renewable raw materials

BASF now also offers Elastopan® and Elastollan® grades manufactured based on renewable resources. Here customers can choose between a bio-based TPU or PU system derived from sebacic acid (dedicated approach) and/or the new mass balance approach. In this approach the substitution of fossil raw materials by renewable ones takes place already during the manufacturing of basic chemicals at BASF. The bio-based amount of raw material is then allocated mathematically to the corresponding product. This allows to save fossil resources, to reduce greenhouse gases and guarantees the established chemical and mechanical properties of the existing systems.

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About BASF

At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of about €74 billion in 2013 and over 112,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at www.basf.com.