

150 years



News Release

BASF at the A+A 2015 in Düsseldorf: Greater comfort for safety shoes

- **Infinergy® – unique suspension and absorption properties for safety shoes**
- **Elastopan® Light Safe – combines performance and comfort**
- **Elastopan® Extreme Frost – high flexural strength, even at minus 45°C**

This year, BASF, the world's leading chemical company, is presenting its new polyurethane (PU) and thermoplastic polyurethane (TPU) portfolio for work and safety shoes at the A+A 2015, the international trade fair for occupational health and safety in Düsseldorf. From October 27 to 30, visitors to Hall 5, Stand K32 can see just how BASF's PU/TPU solutions offer greater comfort in safety shoes.

Infinergy® – as elastic as rubber but lighter

The world's first expanded thermoplastic polyurethane (E-TPU) is now being used for the first time in safety shoes. The closed-cell, elastic particle foam features low density, high elasticity, high abrasion resistance, high tensile strength and good long-term durability over a wide temperature range (down to minus 20°C) along with good chemical resistance. The outstanding property of Infinergy® however, is its high resilience. Testing of the rebound elasticity in accordance with ISO 8307 (ball rebound test) and DIN 53512 (with defined pendulum hammer) demonstrates that Infinergy® achieves a rebound height of more than 55%, putting it well ahead of comparable

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foams such as expanded polypropylene (EPP) at 30%, ethylene vinyl acetate (EVA) at 37% and expanded polyethylene (EPE) at 50%. Infinergy® does not lose its high resilience even with continuous use, making it the ideal material for midsoles in safety shoes.

The material is first used in the "Wellmaxx" range of safety shoes produced by the well-known innovative manufacturer ELTEN. "No midsole has so far produced greater energy return. In practice, the new cushioning technology makes life easier for all members of staff whose job involves a lot of running – a major factor in some sectors because it means a significant improvement in preventing fatigue and joint problems", confirms Stefan Tintrup, orthopedic shoemaker and leading expert in shoe technology at the North Rhine safety shoe manufacturer Elten. People taking part in the wear test were very enthusiastic about the unique suspension and absorption properties of the shoes.

Elastopan® Light Safe - lightweight and antistatic

In Elastopan® Light Safe, BASF offers another low-density system. This is a water-blown polyurethane and is extremely antistatic with low density. Midsoles made of this new material are up to 40% lighter than standard PU systems for midsoles in safety shoes and therefore provide greater comfort.

It can be used in combination with TPU or rubber outer soles to produce a dual-density sole that meets ISO standard EN20344:2011. The material does not require any special production technology; it can be processed with standard footwear casting and injection machines in order to produce soles and shoes.

Elastopan® grades for the lowest temperatures

BASF offers a PU system family under the name Elastopan® Extreme Frost specially designed for very cold weather conditions. In contrast to standard systems, soles made of this material exhibit a flexural strength at minus 45°C of more than 50,000 cycles in the Canadian Ross flex test and more than 8,000 cycles under Russian GOST

conditions. Other core properties include high slip resistance on wet and icy surfaces, low abrasion and high absorption.

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Download the press release and press photos from:

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About BASF's Performance Materials Division

BASF's Performance Materials division encompasses the entire materials know-how of BASF regarding innovative, customized plastics under one roof. Globally active in four major industry sectors - transportation, construction, industrial applications and consumer goods – the division has a strong portfolio of products and services combined with a deep understanding of application-oriented system solutions. Key drivers of profitability and growth are our close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis to develop innovative products and applications. In 2014, the Performance Materials division achieved global sales of €6.5 bn.

More information online: www.performance-materials.basf.com

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 over €74 billion in 2014 and around 113,000 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.