

# News Release



## Flexible, light and safe

### ■ Visible part: Novel engine covering made from flexible PU integral foam with the one-shot process

BASF has now developed a flexible polyurethane integral foam that can be used to produce lightweight engine coverings with the one-shot process, i.e. with one material in one process step. The so-called soft cover, made from Elastofoam® I 4603, is manufactured by the Austrian company POLYTEC Car Styling and fitted as standard in various car models with petrol engines of the Swedish automobile manufacturer Volvo. The sound-absorbing material for the flexible visible part is characterized by a low component density of 140 kg/m<sup>3</sup>, is dimensionally stable, media-resistant as well as resistant to thermal aging up to 150°C. With this novel component, BASF is supporting the automotive industry in reconciling the – often contrary – objectives of lightweight construction, functional integration and compliance with safety standards.

The tailor-made PU foam Elastofoam® I makes it possible to produce engine covers that are characterized by good sound absorption and thermal engine encapsulation. While the part has an open-cell foam structure on the bottom surface, the material on the front side forms a coherent skin with an attractive surface appearance. The surface is accurate in every detail and is printable. The part can absorb a lot of energy on account of the open-cell foam structure, thus increasing passive safety for pedestrians in the event of impact against the hood.

March 18, 2015  
P160/15e  
Dr. Ulla Biernat  
Phone: +49 621 60-42241  
[ulla.biernat@basf.com](mailto:ulla.biernat@basf.com)

On the occasion of the VDI conference "Plastics in Automotive Engineering", March 18 and 19, Mannheim, Germany

BASF SE  
67056 Ludwigshafen  
Phone: +49 621 60-0  
<http://www.basf.com>  
Communications Performance  
Materials  
Phone: +49 621 60-42241  
[www.plasticsportal.eu](http://www.plasticsportal.eu)  
[www.pu.basf.eu](http://www.pu.basf.eu)

“Together with BASF, we have developed the part in such a way that material, production and functionality are optimally adjusted to one another. Moreover, we have achieved this in an unbelievably small amount of time. We can thus manufacture various geometries for different engine models and still simplify our logistics”, says Christian Schobesberger, responsible for technical development at Polytec.

Volvo currently uses the engine cover, which weighs from approximately 1.3 to 1.7 kilograms depending on the automobile model, in four different versions. The important thing is that the engine cover is light, shows good acoustic damping properties and has a high-quality surface. In comparison to conventional engine covers made of two materials, the elastic soft cover foamed in the cost effective one-shot process is able to integrate acoustic and mechanical properties in one part. This saves process steps during production, and better use can be made of the available space around the engine.

Plastics technology has gained great importance in engine acoustics. It plays an essential role in mitigating between lightweight construction and acoustics. BASF develops many plastics and processing methods, making engine covers more resistant, lighter and more space-saving. In addition to various PU foams, the portfolio includes the melamine resin foam Basotect®, engineering plastics such as Ultramid®, and the microcellular special polyurethane Cellasto®.

Further information: [www.elastofoam.de](http://www.elastofoam.de)

### **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](http://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](http://www.basf.com).