

## **PRESS INFORMATION**

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### ***Press release***

## **Automotive construction: Grilamid TR - transparent high-performance polyamides without weaknesses**

**As a rule, amorphous thermoplastics are transparent, but have some weaknesses with regard to resistance to chemicals and material fatigue. In contrast, Grilamid TR prevails with higher transparency, excellent resistance to stress cracking and exceptional flexural bending strength. The combination of these properties are one of the major strengths of Grilamid TR. EMS offers a wide range of products from flexible to super-stiff grades which in practice, allow realisation of applications to meet the most demanding requirements.**

In comparison to conventional polyamides, Grilamid TR is characterised by very low water uptake. This means that components remain dimensionally stable with no loss of stiffness. Key properties are extremely high transparency, very high flexural bending strength and very good stress-cracking resistance when in contact with different chemicals and media.

### **Grilamid TR product family**

The classic product Grilamid TR 55 is considered an all-rounder with a balanced property profile. Along with improved resistance to chemicals, Grilamid TR 90 also exhibits highest values for flexural bending strength and is therefore especially suited for applications where the materials are exposed to strong dynamic loading, such as filter bowls, housings or spectacle frames.

A new product from our continual research and development activities is Grilamid TR 30. This product is characterised by especially high stiffness and impact strength in combination with increased surface hardness which enables improved scratching and wear resistance values to be achieved. Depending on the purpose or testing conditions, these come close to those of PMMA. Grilamid TR 30 is also convincing with regard to good stress-cracking resistance in contact with liquids such as those encountered in automotive or industrial applications. A jet black material grade, so-

called "piano black", provides users with innovative freedom of design for high-quality trim components and decorative design elements for automotive interiors.

Grilamid TR 90 UV, a further development of the renowned product Grilamid TR 90, is ideally suited for external applications and challenging automotive requirements. Along with the well-known property profile of Grilamid TR 90, this material additionally has exceptional resistance to UV-radiation and weathering.

### **The material for highest demands**

Luxurious interior outfitting of vehicles in the top-class range includes high-class materials, precious woods and ambient lighting which can be switched and dimmed in a range of colours.

In cooperation with Daimler AG, EMS-GRIVORY has developed an ambient illumination system for the Mercedes Benz SLK model using Grilamid TR 90 UV. Previously, illumination of design component features was achieved using optical fibres placed behind shades. Due to the lack of chemical resistance of conventional amorphous polymers, the development target of a direct ambient illumination had not been possible. Thanks to a particular colour setting of Grilamid TR 90 UV, the visible area of the lighting trim appears black in the reflected light while providing high and smooth transmission without colour changes, in the areas of transmitted light. The lighting trim is manufactured using special film insert moulding technology. Along with high optical requirements, stress-cracking resistance of the component must be ensured against cleaning agents and care products as well as cosmetics. In addition, this material also satisfies stipulations with regard to crash behaviour. Grilamid TR UV – the material for the most challenging demands and design.

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**Ambient illumination trim for the Mercedes Benz SLK series.  
Material: Grilamid TR 90 UV**



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