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PRESS INFORMATION

Grilamid TR – Transparent, high-performance polyamides without weaknesses

Amorphous thermoplastic materials exhibit excellent transparency. On the other hand, these materials tend to show little resistance to stress cracking and have low flexural fatigue strength. Combination of these properties is however, not doomed to fail. It is made possible by the product family Grilamid TR, which provides a wide assortment ranging from flexible to rigid materials and enables practically indestructible plastic applications to be achieved satisfying the highest requirements.

Grilamid TR is characterised by very low absorption of moisture compared to classic polyamides. This means that components remain dimensionally stable and do not lose strength. The key properties are: extremely good transparency, high flexural fatigue strength and very good resistance to stress cracking when in contact with different chemicals and media.

The classic Grilamid TR 55 is considered an all-rounder with a balanced property profile. The highest flexural fatigue strength values are provided by Grilamid TR 90, making it particularly suitable for dynamically stressed applications such as filter bowls, housings or spectacle frames. It also has excellent weatherability which is only bettered by Grilamid TR 90 UV. This UV-stabilised plastic material is particularly well suited for high-quality external applications. The latest research and development work has generated Grilamid TR 60, a product with exceptionally high resistance to hydrolysis and surface scratching. This is the only transparent polyamide material which withstands repeated sterilisation using superheated steam. Its high heat deflection temperature, for example, allows it to be used in material combinations with liquid silicone rubber (LSR) at low cycle times.

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Along with the European guidelines for contact with foodstuffs, all three basic grades, - Grilamid TR 55, TR 90 and TR 60 – are also approved according to the American FDA regulation CFR 21. These plastics are therefore excellently adapted for use in transparent household applications. With regard to contact with foodstuffs it should also be mentioned that none of the Grilamid TR grades contain any bisphenol A (BPA).

For an improved resistance to alcohols, micro-crystalline grades, based on Grilamid TR 55 and TR 90, are also available. These grades combine the advantages of semi-crystalline and amorphous polyamides.

Along with the basic colour range, EMS-GRIVORY also offers pigmented or laser printable materials according to individual customer requirements.
Due to their exceptional lack of warpage the latest reinforced Grilamid TR grades are suitable above all for filigree structural components.

New in the product range are Grilamid TR products based on renewable raw materials. The property profiles of these products are in no way inferior to those of grades based on petrochemical materials.

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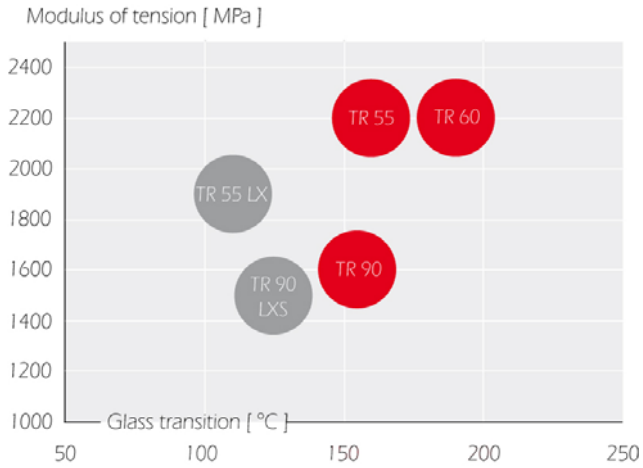
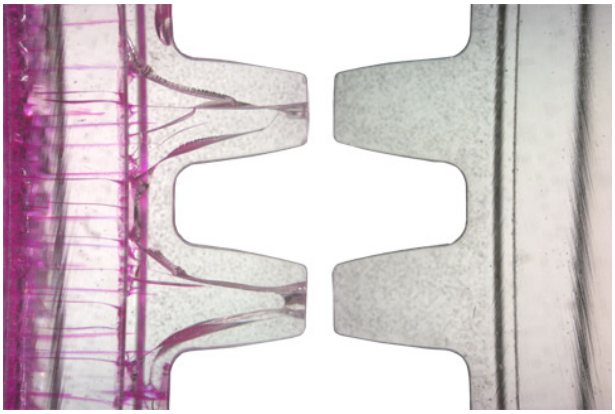
Picture: Product_range.jpg



The Grilamid TR product range covers a wide range of properties. The basic products are marked red.

Picture: Stresscracking.jpg



After just a very short time in use, mechanical stressing causes cracking in Polycarbonate (left) in contrast to Grilamid TR (right).

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