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PRESS INFORMATION

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A good perspective despite reinforcement

The reinforced Grilamid TRV is excellently suited for housings and design components which require a perfect surface quality in addition to high stiffness and strength. Now this product is also available in transparent grades, opening up new applications.

In the form of reinforced grades (Grilamid TRV), the transparent amorphous polyamide Grilamid TR is well-suited for the manufacture of housings and design components for smartphones or tablets. These components have an increasingly sophisticated filigree and thinner-walled design which put higher demands on processing and quality of the materials used. Not only the balance between stiffness and strength is decisive, but also a perfect surface quality. Typical weaknesses of semi-crystalline polyamides are a tendency to warp and formation of sink marks. Surface quality is diminished by the influence of glass-fiber reinforcement and shrinkage. Using Grilamid TRV, practically warp-free, smooth and scratch resistant components with no sink marks and very good surface quality with even the highest degree of reinforcement can be made.

Reinforced and transparent

In the meantime, EMS-GRIVORY has even taken a step further; to date, Grilamid TRV products exhibited loss of transparency due to their fiber reinforcement content. Newly developed grades, Grilamid TRV FE 11078 for example, now make it possible to manufacture transparent, reinforced components with transparency values of up to 90% as well as the advantages of reinforced plastic materials such as higher stiffness and strength. Possible applications for these new Grilamid TRV materials are, for example, housings with directly integrated, low-resolution displays, very stiff filter housings or machine sight glasses with integrated threading.

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Newly developed Grilamid TRV grades (centre) make development of transparent, reinforced components possible.

Grade (dry, freshly molded / ISO)	Reference Grilamid TR 90	Grilamid TRV FE 11078	Grilamid TRVX FE 11070
Glass-fiber content	0%	20%	20%
Tensile E-modulus [GPa]	1.6	5.8	6.7
Tensile stress (*break) [MPa]	60	130*	130*
Elongation at break [%]	>50	4	3
Impact strength [kJ/m ²] (Charpy, impact strength)	>100	45	35
(Charpy, notched impact strength)	13	10	9
Transparency [%]	>93	>90	>88
Haze [%]	<2	<10	<22
Clarity [%]	>98	>80	>60

A comparison between Grilamid TR 90 and the newly developed Grilamid TRV grades.



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