

PRESS INFORMATION

Grivory XL: Focus on light-weight construction

Right on time for the Fakuma, EMS-GRIVORY presented a new group of design materials for light-weight construction: Grivory XL. The new generation of high-performance polyamides, characterised by extraordinary stiffness combined with low density.

The new Grivory XL products (XL = Xtra Light) are based on the well-proven partially aromatic polyamide (PA66/PA6I/6X). This is characterised by reduced moisture absorption and material properties which change very little after conditioning. While classic thermoplastic design materials have stiffness values of around 20,000 MPa, the new Grivory XL products can achieve values significantly higher than 35,000 MPa.

Higher performance; lower weight

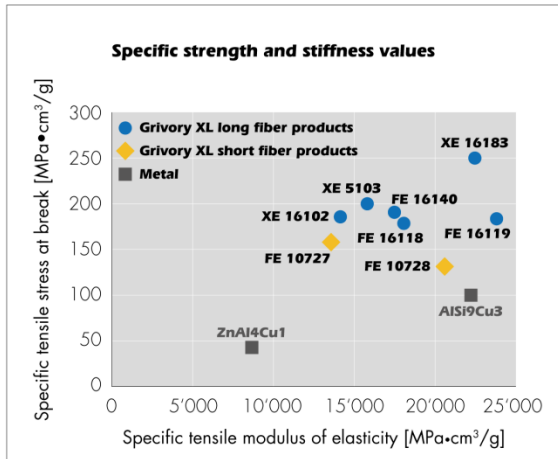
A special hybrid reinforcement of carbon and glass fibres was developed for this new generation of materials and the required properties were achieved with specific targets in mind. Some of the Grivory XL products are modified to be easily flowing for components requiring a long flow path at low pressures. These products allow efficient production of even very complex components having very little warpage.

Grades with this kind of reinforcing system have also been developed for the very successful product assortment of long fibre reinforced polyamides (LFT) from EMS. They are impressive with extremely low creep values, high notched impact strength and exceptionally elastic spring behaviour.

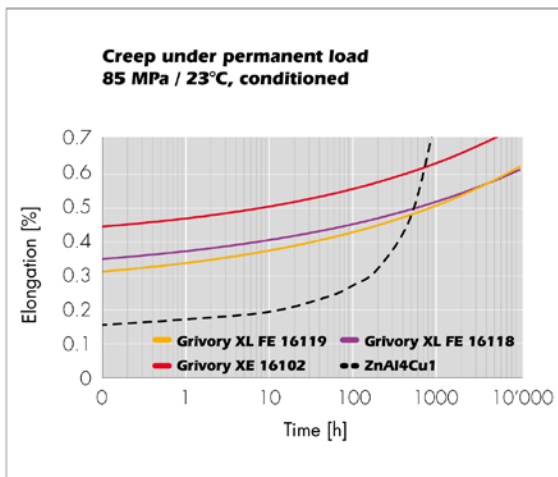
All these properties are offered by materials which have a very low density; the increased stiffness values do not result in an increase of mass of the component. In addition, the values for specific strength and stiffness are much higher than those of metals like zinc die cast. This makes the materials extremely attractive for light-weight construction.

Superior mechanical properties

Grivory XL products are used when components cannot be constructed with sufficient thickness or cannot be strengthened sufficiently and, therefore, show major deformation under load. The stiffness of the Grivory XL products allows thinner-walled components and correspondingly shorter cycle times to be achieved. Due to the high E-modulus, long fibre reinforced products in particular show even further



The specific strength and stiffness values of Grivory XL products greatly exceed those of metals.



Creep behaviour of Grivory XL products at 23°C, 85 MPa tensile stress

Grivory XL product assortment				
short-fibre granules		Density	E-Modulus	Notched impact
	FE 10728	1.73	35,500	10
	FE 8902	1.71	35,000	11
	FE 10727	1.55	21,000	11
Particularly easily-flowing, low-warpage, hybrid reinforcement with special glass fibres				
long-fibre pellets		Density	E-Modulus	Notched impact
	FE 16119	1.61	38,000	17
	FE 16118	1.71	31,000	25
	XE 16183	1.34	30,500	18
	FE 16140	1.66	28,000	25
	XE 16102	1.69	23,500	45
	XE 5103	1.40	22,500	18
low-warpage, hybrid reinforcement with special long glass fibres				

Table 1: Possible Grivory XL product grades.



Contact for technical inquiries

Horst Heckel
Product Manager LFT
EMS-GRIVORY Europe
Tel. +49 6078 783 114
E-Mail: horst.heckel@de.emsgrivory.com



Contact for the press

Andreas Müller
Head of Communication
Tel.: +41 81 632 72 50
E-Mail: andi.mueller@emsgrivory.com