

Product description

Glass fiber reinforced injection molding PA6 grade with improved flame retardance based on red phosphorus, giving outstanding mechanical and electrical properties for components requiring high stiffness.

Physical form and storage

The product is supplied in the form of granules with a bulk density of approx. 0.7 g/cm³. Standard packs are bag and bulk container (octagonal IBC=intermediate bulk container made from corrugated board with a liner bag). Other packaging materials and shipping in road or rail silo wagons are possible by agreement. The containers should only be opened immediately before processing or drying. To ensure that the delivered product absorbs as little moisture as possible, the containers should be stored in dry rooms and always carefully closed again after partial quantities have been withdrawn. In principle, the product can be stored for a long period of time. Containers stored in cold rooms should be equalized to ambient temperature before opening in order to avoid condensation on the granules. Regardless of the storage conditions, the product should be pre-dried according to our recommendations and the machine should preferably be loaded using a closed conveyor system.

Product safety

In case processing is done under conditions as recommended (cf. processing data sheet) melts are thermally stable and do not generate hazards by molecular degradation or the evolution of gases and vapors. Like all thermoplastic polymers the product decomposes on exposure to excessive thermal load, e.g. when it is overheated or as a result of cleaning by burning off. Further information is available from the safety data sheet.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to check the availability of products please contact us or our sales agency.

Typical values for uncoloured product at 23 °C ¹⁾	Test method	Unit	Values ²⁾
Properties			
Polymer abbreviation	-	-	PA6-GF30 FR
Density	ISO 1183	kg/m ³	1430
Moisture absorption, equilibrium 23°C/50% r.h.	similar to ISO 62	%	1.6 - 2
Processing			
Melting temperature, DSC	ISO 11357-1/-3	°C	220
MVR 275 °C/5 kg	ISO 1133	cm ³ /10min	25
Melt temperature, injection moulding/extrusion	-	°C	270 - 290
Mould temperature, injection moulding	-	°C	80 - 90
Molding shrinkage (parallel)	ISO 294-4	%	0.30
Molding shrinkage (normal)	ISO 294-4	%	0.80
Thermal properties			
Deflection temp. under load 1.8 MPa (HDT A)	ISO 75-1/-2	°C	200
Deflection temp. under load 0.45 MPa (HDT B)	ISO 75-1/-2	°C	215
Coeff. of linear therm. expansion 23°C - 55°C (parallel)	ISO 11359-1/-2	E-6/K	22
Coeff. of linear therm. expansion 23°C - 55°C (normal)	ISO 11359-1/-2	E-6/K	86
Thermal conductivity, solid material (23°C)	DIN 52612-1	W/(m K)	0.33
Specific heat capacity, solid material (23°C)	-	J/(kg*K)	1500
Melting temperature, DSC	ISO 11357-1/-3	°C	220
Flammability			
UL 94 rating (thickness)	UL-94, IEC 60695	class (mm)	V-0 (1.5)
Electrical properties			
			dry / cond.
Volume resistivity	IEC 62631-3-1	Ohm*m	1E13 / 1E10
Surface resistivity	IEC 62631-3-2	Ohm	* / 1E13
Mechanical properties			
			dry / cond.
Tensile modulus	ISO 527-1/-2	MPa	9850 / -
Stress at break	ISO 527-1/-2	MPa	150 / -
Strain at break	ISO 527-1/-2	%	2.9 / -
Flexural modulus	ISO 178	MPa	9600 / -
Flexural strength	ISO 178	MPa	226 / -
Charpy unnotched impact strength, 23°C	ISO 179/1eU	kJ/m ²	70 / -
Charpy notched impact strength, 23°C	ISO 179/1eA	kJ/m ²	11 / -

Footnotes

1) If product name or properties don't state otherwise.

2) The asterisk symbol "*" signifies inapplicable properties.

3) The typical values of preliminary datasheets are not statistically firm.