Processing Data Sheet **Ultramid®**

A3EG5

07/2015 **PA66-GF25**

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Product description

Glass fibre reinforced injection moulding grade for machinery components and housings of high stiffness and dimensional stability such as coil formers and bearing cages. Also used for electrically insulating parts.

Physical form and storage

The product is supplied dry and ready to use in moisture-proof packaging. The material is in the form of cylindrical or flat pellets. Its bulk density is about 0,7 g/cm³. Standard packs are the special 25 kg bag and the 1000 kg bulk container (octagonal IBC=intermediate bulk container made from corrugated board with a liner bag). Subject to agreement other forms of packaging and shipment in tankers by road or rail are also possible. All containers are tightly sealed and should be opened only immediately prior to processing. To ensure that the perfectly dry material delivered cannot absorb moisture from the air the containers must be stored in dry rooms and always carefully sealed again after some of the material has been withdrawn. Ultramid® can be stored for a longer period of time in dry, well vented rooms without any change to properties. After longer storage times (> 3 months for IBC or > 2 years for bags) or if material from previously opened containers is used, drying is recommended to remove absorbed moisture. Containers stored in cold rooms should be allowed to equalise to normal temperature so that no condensation forms on the pellets.

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.

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Processing Data Sheet

	Test method	Unit	Values
Properties			
Polymer abbreviation	-	-	**PA66-GF25**
Density	ISO 1183	kg/m³	**1320**
Melt volume rate MVR 275 °C/5 kg	ISO 1133	cm³/10min	**50**
Drying			
Moisture, max.	-	%	**0.15**
Moisture, optimal [1)]	-	%	**0.03 - 0.06**
Dryer temperature [2)]	-	°C	**80**
Drying time [3)]	-	h	**4**
Injection molding			
Melt temperature range	-	°C	**280 - 300**
Melt temperature, optimal	-	°C	**290**
Mold temperature range	-	°C	**80 - 90**
Mold temperature, optimal	-	°C	**80**
Residence time, max.	-	min	**10**
Machine Settings			
Temperature hopper throat	-	°C	**80**
Cylinder temperature 1 (feed zone)	-	°C	**290**
Cylinder temperature 2 (compression)	-	°C	**290**
Cylinder temperature 3 (metering-zone, in front of the screw)	-	°C	**290**
Cylinder temperature 4 (nozzle)	-	°C	**290**
Peripheral screw speed	-	m/s	**≤ 0.3**
Shrinkage			
Molding shrinkage (parallel)	ISO 2577, 294-4	%	**0.60**
Molding shrinkage (normal)	ISO 2577, 294-4	%	**1.07**
Processing shrinkage, constrained, longitudinal (TM = 290 °C, TW = 80 °C) [4)]	-	%	**0.55**

Footnotes
1) Excessive drying of the granules may lead to an increase of melt viscosity during processing.
2) Dry air dryer; drying time is dependent on the inital moisture content of the granules, drying temperature and the dew point of the dried air.
3) In case of improper storage (e.g. open packages) drying time may have to be extended.
4) Model housing with central sprue, measures of the base: 107 x 47 x 1.5 mm.

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