Technical data
KEBABLEND / M FE 181102/1 PA12 (development product*)

PA12, functional compound for the production of plastic bonded magnets. Due to the high degree of filling with rare earths, KEBABLEND / M FE 181102/1 PA12 (development product*) enables the injection molding production of very powerful magnets.

Polymer: PA 12

ISO designation: PA12-MED

Productgroup: Magnetic compounds, Functionalized compounds

Brief description of the product family:

KEBABLEND is a wide range of functional compounds, often tailor-made to customer requirements. Under the trade name KEBABLEND, we market magnetizable, thermally or electrically conductive compounds, high-density injection molding materials, compounds for radiation protection applications, detectable plastics and much more.

Properties:

dimensionally stable, magnetizable, PFAS-free

Typical areas of application:

Holding magnets, Magnets for sensors, Pumps and motors

Industries:

Automotive, Electrical and electronics industry, Household appliances, Mechanical Engineering, Sanitary industry

Physical properties

Density in kg/m³ | ISO 1183-1	4500

Mechanical properties

Tensile modulus in MPa | ISO 527-1	11500
Stress at break in MPa | ISO 527-1	60
Strain at break in % | ISO 527-1	1.5
Impact strength (Charpy) at 23°C in kJ/m² | ISO 179-1eU	17
Notched impact strength (Charpy) at 23°C in kJ/m² | ISO 179-1eA	2

Rheological properties

Molding shrinkage in flow direction in % | ISO 294-4	0,58
Molding shrinkage transverse to the flow direction in % | ISO 294-4	0,61

Thermal properties

Melting temperature (DSC, 10°C/min) in °C | ISO 11357-1/-3	178
Burning behavior at thickness 0.4 mm | IEC 60695-11-10	HB

Magnetic properties	
Remanence (Br) in mT | DIN EN 60404-5	435
Coercivity (jHc) in kA/m | DIN EN 60404-5	760
max. energy product (BH max) in kJ/m³ | DIN EN 60404-5	33

Processing instructions:

Pre-drying may be necessary to achieve perfect processability in the injection molding process:

Recommendation:

Dryer type: dry air dryer
Temperature: 80 °C
Drying time: 3-6 h

Recommended basic settings:

Melt temperature: 260 – 280 °C
Mold temperature: 60 – 80 °C
Injection speed: medium – high
Back pressure: 40 – 80bar (spec.)

Machine selection:

Screw: special injection units for magnetic compounds; low compression screws with non-return valve
Nozzle: Open nozzle
Wear protection: Wear and corrosion protected according to machine manufacturer’s recommendation suitable for processing magnetic compounds
Injection unit: Shot volume = 50 – 80% of the maximum metering volume

Further important processing information:

The residence time of the melt in the screw antechamber should be kept as short as possible. If this is not observed, segregation can occur due to the large difference in density between the filler and the carrier material if the downtimes are too high. The ideal here is metering time = cooling time. A medium back pressure leads to optimum homogenization. Due to the high filler content, the injection unit must be equipped with wear and corrosion protection.

Legal notices:

The information in this data sheet is based on our current knowledge and experience. Due to the wide range of possible influences during processing and application of our products, they do not exempt the processor from carrying out his own tests and trials. A legally binding assurance of certain properties or suitability for a specific application cannot be derived from our information.

* FE products are development products which are still in the trial phase. Technical data may still change in the course of product and process development. No final decision has yet been made on the commercialization of FE products. We reserve the right to discontinue the manufacture of FE products without giving further reasons.

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