

Polypropylene

Fibremod™ GB416LF

Polypropylene, Long Glass Fibre Reinforced

Description

Fibremod™ GB416LF is a 40 % long glass fibre reinforced polypropylene grade intended for injection moulding and extrusion. The long glass fibres, chemically coupled to the polypropylene matrix, are providing outstanding mechanical properties such as high strength, high stiffness and excellent impact behaviour.

Due to its excellent combination of properties this material can substitute in many applications other engineering plastics or metal alloys.

Applications

Fibremod GB416LF has been developed especially for demanding visible structure parts requiring good surface aspect and high purity.

Structural parts
Instrument panel carriers

Tailgate carriers

Special Features

High flowability
Low emission
Very good surface aesthetics

Excellent mechanical properties
High scratch resistance

Physical Properties

| Property | Typical Value | Test Method |
|--|------------------------|-------------|
| Data should not be used for specification work | | |
| Density | 1230 kg/m ³ | ISO 1183 |
| Tensile Modulus (1 mm/min) | 10.000 MPa | ISO 527-2 |
| Tensile Strength | 170 MPa | ISO 527-2 |
| Heat Deflection Temperature B (0,45 MPa) | 160 °C | ISO 75-2 |
| Charpy Impact Strength, notched (23 °C) | 28 kJ/m ² | ISO 179/1eA |
| Charpy Impact Strength, unnotched (23 °C) | 70 kJ/m ² | ISO 179/1eU |

Values determined on standard injection moulded specimens conditioned at 23°C and 50% relative humidity after at least 96 hours storage time.

Application Related and Other Tests

| Property | Typical Value | Test Method |
|--|---------------|-------------|
| Data should not be used for specification work | | |
| Fogging (100 °C,16 h) | < 1,5 mg | DIN 75201 |
| Emission | < 40 µgC/g | VDA 277 |

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Processing Techniques

The actual conditions will depend on the type of equipment used.

Injection Moulding

This product is easy to process with standard injection moulding machines. To avoid residual humidity from transport or storage, the material should be pre-dried approximately 2h at 80°C. Following parameters should be used as guidelines: The fibre length in the final part is the key factor determining the mechanical properties. The main goal of the moulding recommendation is to limit fibre breakage to a minimum. Therefore it is favourable to melt the material as quickly as possible to prevent excessive fibre breakage in the feeding section. Low work during plastification and smooth flow during moulding provides the most reinforcing fibre structure for the final part. Further specific recommendations for processing conditions can be determined only when the application and type of equipment are known. Please contact your local Borealis representative for specific assistance.

| | |
|---------------------|-----------------|
| Feeding temperature | 40 - 80 °C |
| Mass temperature | 220 - 260 °C |
| Back pressure | Low to medium |
| Holding pressure | 30 - 60 bar |
| Mould temperature | 30 - 60 °C |
| Screw speed | Low to medium |
| Flow front speed | 100 - 200 m/min |

Storage

Fibremod GB416LF should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.

Safety

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal of the product. For more information, contact your Borealis representative.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

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Regional Availability

Europe

For information on regional availability please contact Borealis Sales Representative.

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Issuer:

Marketing Automotive / Georg Grestenberger
Product Management / Mario Eggetsberger

Disclaimer

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

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