



Polypropylene Fibremod™ GB402HP

Polypropylene, Long Glass Fibre Reinforced

Description

Fibremod GB402HP 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. A significant value of this material is the fact that it does not change its mechanical properties at humid conditions or water contact.

The product is available in standard black 8229.

Applications

Fibremod GB402HP has been developed especially for applications like:

Front end carriers
Dashboard carriers
Door module carriers

Structural parts
Technical components exposed to high heat and loads

Special features

Excellent mechanical properties even at high temperatures

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	1240 kg/m ³	ISO 1183
Melt Flow Rate (230 °C/2,16 kg)	2 g/10min	ISO 1133
Flexural Modulus (2 mm/min)	8.400 MPa	ISO 178
Flexural Strength	200 MPa	ISO 178
Tensile Modulus (1 mm/min)	9.000 MPa	ISO 527-2
Tensile Strain at Break (50 mm/min)	2 %	ISO 527-2
Tensile Strength	140 MPa	ISO 527-2
Heat Deflection Temperature A (1,80 MPa)	162 °C	ISO 75-2
Heat Deflection Temperature B (0,45 MPa)	166 °C	ISO 75-2
Vicat softening temperature (10 N)	165 °C	ISO 306
Vicat softening temperature (50 N)	145 °C	ISO 306
Charpy Impact Strength, notched (23 °C)	28 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, notched (-20 °C)	32 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, notched (-30 °C)	40 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, unnotched (23 °C)	57 kJ/m ²	ISO 179/1eU
Charpy Impact Strength, unnotched (-20 °C)	55 kJ/m ²	ISO 179/1eU
Izod Impact Strength, notched (23 °C)	31 kJ/m ²	ISO 180/1A
Izod Impact Strength, notched (-20 °C)	34 kJ/m ²	ISO 180/1A
Hardness, Ball Indentation 132 N/10 s	123 MPa	ISO 2039

Fibremod is a trademark of the Borealis group.

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

Application Related Tests

Property	Typical Value <small>Data should not be used for specification work</small>	Test Method
Average process Shrinkage (in flow, 150x80x2 mm) ¹	0,1 %	Borealis Method
Average process Shrinkage (cross flow, 150x80x2 mm) ¹	0,6 %	Borealis Method

¹ VALUES MAY ONLY BE USED AS INDICATION, AND SHOULD NOT BE USED DIRECTLY IN MOULD DESIGN WITHOUT PRIOR VALIDATION

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:

Feeding temperature	40 - 80 °C
Mass temperature	220 - 260 °C
Back pressure	As low as possible
Holding pressure	30 - 60 MPa
Mould temperature	40 - 80 °C
Screw speed	Low to medium
Flow front speed	100 - 200 mm/s

Storage

Fibremod GB402HP 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

The product is not classified as dangerous.

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



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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.

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of recovery and disposal of the product.

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.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of any Borealis product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above.