



**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 <sup>3</sup>	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 <sup>2</sup>	ISO 179/1eA
Charpy Impact Strength, notched (-20 °C)	32 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Impact Strength, notched (-30 °C)	40 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Impact Strength, unnotched (23 °C)	57 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Impact Strength, unnotched (-20 °C)	55 kJ/m <sup>2</sup>	ISO 179/1eU
Izod Impact Strength, notched (23 °C)	31 kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact Strength, notched (-20 °C)	34 kJ/m <sup>2</sup>	ISO 180/1A
Hardness, Ball Indentation 132 N/10 s	123 MPa	ISO 2039



**Polypropylene**

# Fibremod GB402HP

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) <sup>1</sup>	0,1 %	Borealis Method
Average process Shrinkage (cross flow, 150x80x2 mm) <sup>1</sup>	0,6 %	Borealis Method

<sup>1</sup> 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.