

PRODUCT DATA SHEET

21.07.2016 Ed.2


Polypropylene

Fibremod™ CB301SY

Polypropylene, Carbon Fibre Reinforced

Description

Fibremod CB301SY is a 30% carbon fibre reinforced engineering polypropylene grade intended for injection moulding. The carbon fibres, chemically coupled to the polypropylene matrix, are providing outstanding mechanical properties with up to 40% weight saving potential compared to lightweight metals.

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.

Applications

Fibremod CB301SY has been developed especially for demanding applications in the automotive industry.

Door module carriers
Structural seat parts

Engine components
Tailgate carriers

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	1060 kg/m ³	ISO 1183
Melt Flow Rate (230 °C/2,16 kg)	4 g/10min	ISO 1133
Flexural Modulus (2 mm/min)	15.000 MPa	ISO 178
Tensile Strength	110 MPa	ISO 527-2
Charpy Impact Strength, notched (23 °C)	5 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, notched (-20 °C)	4 kJ/m ²	ISO 179/1eA

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)	< 2 mg	DIN 75201
Emission	< 50 µgC/g	VDA 277

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:

Fibremod is a trademark of the Borealis group.

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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	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 CB301SY 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.

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.

Regional Availability

Europe

For information on regional availability please contact Borealis Sales Representative.

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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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