PRODUCT DATA SHEET

Polypropylene

Fibremod™ CB201SY

Polypropylene, Carbon Fibre Reinforced

Description

Fibremod CB201SY is a 20% 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 maximized performance to weight ratio.
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 CB201SY has been developed especially for demanding applications in the automotive industry.

Door module carriers
Engine components
Tailgate carriers
Center consoles
Other automotive parts

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density	1000 kg/m³	ISO 1183
Melt Flow Rate (230 °C/2,16 kg)	8 g/10min	ISO 1133
Tensile Modulus (1 mm/min)	9.700 MPa	ISO 527-2
Tensile Strength (50 mm/min)	85 MPa	ISO 527-2
Charpy Impact Strength, notched (23 °C)	7 kJ/m²	ISO 179/1eA
Charpy Impact Strength, notched (-20 °C)	5 kJ/m²	ISO 179/1eA
Charpy Impact Strength, unnotched (23 °C)	40 kJ/m²	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 Data should not be used for specification work	Test Method
Fogging (100 °C,16 h)	< 2 mg	DIN 75201
Emission	< 50 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 know. 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 CB201SY 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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