Polypropylene
GB205U

Polypropylene Compound, Glass Fibre Reinforced

Description

GB205U is a 20% chemically coupled glass fibre reinforced polypropylene compound intended for injection moulding. The product is available in natural but other colours can be provided on request.

This material shows excellent mechanical properties also at elevated temperatures.

Applications

GB205U has been developed especially for demanding applications in various engineering sectors.

Technical components exposed to high heat and loads
Washing machine parts
Under the bonnet components

Special features

High heat stabilised
Detergent resistant
UL registered under File E108112

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density	1040 kg/m3	ISO 1183
Melt Flow Rate (230 °C/2,16 kg)	2,2 g/10min	ISO 1133
Flexural Modulus (2 mm/min)	4.400 MPa	ISO 178
Flexural Strength	115 MPa	ISO 178
Tensile Modulus (1 mm/min)	4.800 MPa	ISO 527-2
Tensile Strain at Break (50 mm/min)	4 %	ISO 527-2
Tensile Strength	75 MPa	ISO 527-2
Tensile Strain at Tensile Strength	3,5 %	ISO 527-2
Heat Deflection Temperature A (1,80 MPa)	140 °C	ISO 75-2
Heat Deflection Temperature B (0,45 MPa)	154 °C	ISO 75-2
Vicat softening temperature (10 N)	160 °C	ISO 306
Vicat softening temperature (50 N)	130 °C	ISO 306
Charpy Impact Strength, notched (23 °C)	10,5 kJ/m²	ISO 179/1eA
Charpy Impact Strength, notched (-20 °C)	7,5 kJ/m²	ISO 179/1eA
Charpy Impact Strength, notched (-30 °C)	7,0 kJ/m²	ISO 179/1eA
Charpy Impact Strength, unnotched (23 °C)	45 kJ/m²	ISO 179/1eU
Charpy Impact Strength, unnotched (-20 °C)	42 kJ/m²	ISO 179/1eU
Izod Impact Strength, notched (23 °C)	10 kJ/m²	ISO 180/1A
Izod Impact Strength, notched (-20 °C)	8 kJ/m²	ISO 180/1A
Hardness, Ball Indentation 132 N/10 s	101 MPa	ISO 2039

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

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Application Related Tests

Property	Typical Value Data should not be used for specification work	Test Method
Fogging (100 °C,16 h)	1 mg	DIN 75201
Fogging (100 °C,3 h)	98 %	DIN 75201
Emission	15 µgC/g	VDA 277
Average process Shrinkage (in flow, 150x80x2 mm) [1]	0,2 %	Borealis Method
Average process Shrinkage (cross flow, 150x80x2 mm) [1]	1,1 %	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.Following moulding parameters should be used as guidelines:

Feeding temperature	40 - 80 °C
Mass temperature	230 - 280 °C
Holding pressure	30 - 60 MPa
Back pressure	As low as possible
Mould temperature	30 - 50 °C
Screw speed	Low to medium
Flow front speed	100 - 200 mm/s

Storage
GB205U 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 a dangerous preparation.

Please see our Safety Data 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 for details on various aspects of recovery and disposal of the product.

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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 Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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