

Fibremod™ GB311U

Polypropylene

Borealis AG

Message:

GB311U is a 30% chemically coupled glass fibre reinforced polypropylene compound intended for injection moulding. This material shows excellent mechanical properties also at elevated temperatures.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Additive	heat stabilizer		
Features	Chemical coupling		
	Detergent resistance		
	Thermal Stability		
Uses	Electrical/Electronic Applications		
	Components		
	Home appliance components		
	Application in Automobile Field		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
Physical	Nominal Value	Unit	Test Method
Density	1.12	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	2.0	g/10 min	ISO 1133
Molding Shrinkage ¹			Internal method
Vertical flow direction: 2.00mm	1.0	%	Internal method
Flow direction: 2.00mm	0.20	%	Internal method
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 132/10)	124	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ² (Injection Molded)	6800	MPa	ISO 527-2/1
Tensile Stress ³ (Yield, Injection Molded)	97.0	MPa	ISO 527-2
Tensile Strain ⁴ (Break, Injection Molded)	3.0	%	ISO 527-2/50
Flexural Modulus (Injection Molded)	6200	MPa	ISO 178
Flexural Stress ⁵ (Injection Molded)	130	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, injection molding	8.0	kJ/m ²	ISO 179/1eA

-20°C, injection molding	9.0	kJ/m ²	ISO 179/1eA
23°C, injection molding	11	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-20°C, injection molding	45	kJ/m ²	ISO 179/1eU
23°C, injection molding	50	kJ/m ²	ISO 179/1eU
Notched Izod Impact			ISO 180/1A
-20°C, injection molding	8.0	kJ/m ²	ISO 180/1A
23°C, injection molding	11	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	159	°C	ISO 75-2/B
1.8 MPa, not annealed	145	°C	ISO 75-2/A
Vicat Softening Temperature			
--	165	°C	ISO 306/A
--	135	°C	ISO 306/B
Melt Energy	75.7	kJ/kg	ISO 11357
Atomization-16 hrs (100°C)	1.0	mg	DIN 75201
Emission	15.0	µg/g	VDA 277
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0	hr	
Processing (Melt) Temp	230 - 280	°C	
Mold Temperature	30.0 - 50.0	°C	
Holding Pressure	30.0 - 60.0	MPa	
Injection instructions			
Feeding Temperature: 40 to 80°CBack pressure: As low as possibleScrew speed: Low to mediumFlow front speed: 100 - 200 mm/s			
NOTE			
1.	150x80x2 mm		
2.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
3.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
4.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
5.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

