

Borealis GB311U Polypropylene Compound, Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 30% Glass Fiber Filler

Material Notes:

GB311U is a 30% chemically coupled glass fiber reinforced polypropylene compound intended for injection molding. This material shows excellent mechanical properties also at elevated temperatures. Applications: GB311U has been developed especially for demanding applications in the automotive industry including technical components exposed to high heat and loads, washing machine parts, and structural parts. Information provided by Borealis AG

Order this product through the following link:

http://www.lookpolymers.com/polymer_Borealis-GB311U-Polypropylene-Compound-Glass-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.12 g/cc	0.0405 lb/in ³	ISO 1183
Linear Mold Shrinkage	0.0020 cm/cm	0.0020 in/in	average process; in flow; 150x80x2mm
	0.010 cm/cm	0.010 in/in	average process; cross flow; 150x80x2mm
Melt Flow	2.0 g/10 min	2.0 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 230 °C	@Load 4.76 lb, Temperature 446 °F	

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	124 MPa	18000 psi	132 N/10s; ISO 2039
Tensile Strength, Yield	97.0 MPa	14100 psi	ISO 527-2
Elongation at Break	3.0 %	3.0 %	50mm/min; ISO 527-2
Elongation at Yield	2.8 %	2.8 %	ISO 527-2
Tensile Modulus	6.80 GPa	986 ksi	1mm/min; ISO 527-2
Flexural Strength	130 MPa	18900 psi	ISO 178
Flexural Modulus	6.20 GPa	899 ksi	2mm/min; ISO 178
Izod Impact, Notched (ISO)	8.00 kJ/m ²	3.81 ft-lb/in ²	ISO 180/1A
	@Temperature -20.0 °C	@Temperature -4.00 °F	
Charpy Impact Unnotched	11.0 kJ/m ²	5.23 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	4.50 J/cm ²	21.4 ft-lb/in ²	ISO 179/1eU
	5.00 J/cm ²	23.8 ft-lb/in ²	

Mechanical Properties	Metric J/cm^2	English lb/in^2	Comments
Charpy Impact, Notched	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eA
	0.900 J/cm ²	4.28 ft-lb/in ²	ISO 179/1eA
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.10 J/cm ²	5.23 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	159 °C	318 °F	ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	145 °C	293 °F	ISO 75-2
Vicat Softening Point	135 °C	275 °F	ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
	165 °C	329 °F	ISO 306
	@Load 1.02 kg	@Load 2.25 lb	

Processing Properties	Metric	English	Comments
Processing Temperature	230 - 280 °C	446 - 536 °F	mass temperature
Feed Temperature	40.0 - 80.0 °C	104 - 176 °F	
Mold Temperature	30.0 - 50.0 °C	86.0 - 122 °F	
Injection Velocity	100 - 200 mm/sec	3.94 - 7.87 in/sec	
Hold Pressure	30.0 - 60.0 MPa	4350 - 8700 psi	

Descriptive Properties	Value	Comments
Back Pressure	as low as possible	
Emission ($\mu gC/g$)	15	VDA 277
Fogging (mg)	0.97	100°C;3h;DIN 75201
	1	100°C;16h;DIN 75201
Screw Speed	low to medium	

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