

## Borealis GD310U Polypropylene Compound, Glass Fiber Reinforced

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

### Material Notes:

GD310U 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: GD310U has been developed especially for demanding applications in under the bonnet applications including air ducts, fans and shrouds, and lamp housings. Information provided by Borealis AG

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Borealis-GD310U-Polypropylene-Compound-Glass-Fiber-Reinforced.php](http://www.lookpolymers.com/polymer_Borealis-GD310U-Polypropylene-Compound-Glass-Fiber-Reinforced.php)

| Physical Properties   | Metric                               | English                              | Comments                                   |
|-----------------------|--------------------------------------|--------------------------------------|--|
| Density               | 1.12 g/cc                            | 0.0405 lb/in <sup>3</sup>            | ISO 1183                                   |
| Linear Mold Shrinkage | 0.0020 cm/cm                         | 0.0020 in/in                         | average process; in flow;<br>150x80x2mm    |
|                       | 0.0090 cm/cm                         | 0.0090 in/in                         | average process; cross flow;<br>150x80x2mm |
| Melt Flow             | 10 g/10 min                          | 10 g/10 min                          | ISO 1133                                   |
|                       | @Load 2.16 kg,<br>Temperature 230 °C | @Load 4.76 lb,<br>Temperature 446 °F |  |

| Mechanical Properties      | Metric                 | English                    | Comments            |
|----------------------------|------------------------|----------------------------|---------------------|
| Ball Indentation Hardness  | 121 MPa                | 17500 psi                  | 132/10s; ISO 2039   |
| Tensile Strength, Yield    | 95.0 MPa               | 13800 psi                  | ISO 527-2           |
| Elongation at Break        | 2.8 %                  | 2.8 %                      | 50mm/min; ISO 527-2 |
| Tensile Modulus            | 7.10 GPa               | 1030 ksi                   | 1mm/min; ISO 527-2  |
| Flexural Strength          | 140 MPa                | 20300 psi                  | ISO 178             |
| Flexural Modulus           | 6.60 GPa               | 957 ksi                    | 2mm/min; ISO 178    |
| Izod Impact, Notched (ISO) | 9.00 kJ/m <sup>2</sup> | 4.28 ft-lb/in <sup>2</sup> | ISO 180/1A          |
|                            | @Temperature -20.0 °C  | @Temperature -4.00 °F      |                     |
| Charpy Impact Unnotched    | 10.0 kJ/m <sup>2</sup> | 4.76 ft-lb/in <sup>2</sup> | ISO 180/1A          |
|                            | @Temperature 23.0 °C   | @Temperature 73.4 °F       |                     |
| Charpy Impact Unnotched    | 4.20 J/cm <sup>2</sup> | 20.0 ft-lb/in <sup>2</sup> | ISO 179/1eU         |
|                            | @Temperature -20.0 °C  | @Temperature -4.00 °F      |                     |
|                            | 4.80 J/cm <sup>2</sup> | 22.8 ft-lb/in <sup>2</sup> |                     |

| Mechanical Properties  | Metric                  | English                    | ISO 179/1eJ<br>Comments |
|------------------------|-------------------------|----------------------------|-------------------------|
| Charpy Impact, Notched | 0.950 J/cm <sup>2</sup> | 4.52 ft-lb/in <sup>2</sup> | ISO 179/1eA             |
|                        | @Temperature 23.0 °C    | @Temperature 73.4 °F       |                         |
|                        | 0.950 J/cm <sup>2</sup> | 4.52 ft-lb/in <sup>2</sup> | ISO 179/1eA             |
|                        | @Temperature -20.0 °C   | @Temperature -4.00 °F      |                         |
|                        | 0.950 J/cm <sup>2</sup> | 4.52 ft-lb/in <sup>2</sup> | ISO 179/1eA             |
|                        | @Temperature -30.0 °C   | @Temperature -22.0 °F      |                         |
|                        | 1.00 J/cm <sup>2</sup>  | 4.76 ft-lb/in <sup>2</sup> | 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) | 148 °C        | 298 °F        | ISO 75-2 |
| Vicat Softening Point                       | 135 °C        | 275 °F        | ISO 306  |
|   | @Load 5.10 kg | @Load 11.2 lb |          |
|   | 164 °C        | 327 °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 |          |
| Screw Speed            | low to medium      |          |

## Contact Songhan Plastic Technology Co.,Ltd.

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