

## SABIC Innovative Plastics NORYL GFN1720 PPE+HIPS

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polystyrene (PS)

### Material Notes:

Noryl\* GFN1720 is a 20% glass fiber reinforced, injection moldable grade. This modified polyphenylene ether resin is designed to deliver a balance of heat, strength and electrical properties. Noryl GFN1720 is available in multiple colors and may be an excellent material candidate for ignition coils, bobbins and other application requiring electrically insulating properties.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-GFN1720-PPEHIPS.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-GFN1720-PPEHIPS.php)

| Physical Properties            | Metric   | English  | Comments                                |
|--------------------------------|--|--|---|
| Specific Gravity               | 1.24 g/cc  | 1.24 g/cc  | ASTM D792                               |
| Density                        | 1.24 g/cc  | 0.0448 lb/in <sup>3</sup>  | ISO 1183                                |
| Moisture Absorption            | 0.0600 %   | 0.0600 %   | 23 <sup>o</sup> C / 50% RH; ISO 62      |
| Water Absorption at Saturation | 0.15 %   | 0.15 %   | ISO 62                                  |
| Linear Mold Shrinkage, Flow    | 0.0020 - 0.0040 cm/cm  | 0.0020 - 0.0040 in/in  | on Tensile Bar; SABIC Method            |
|                                | 0.0020 - 0.0040 cm/cm<br>@Thickness 3.20 mm                      | 0.0020 - 0.0040 in/in<br>@Thickness 0.126 in                     | SABIC Method                            |
| Melt Flow                      | 4.5 g/10 min<br>@Load 5.00 kg,<br>Temperature 300 <sup>o</sup> C | 4.5 g/10 min<br>@Load 11.0 lb,<br>Temperature 572 <sup>o</sup> F | ASTM D1238                              |
| Melt Index of Compound         | 11 g/10 min<br>@Load 10.0 kg,<br>Temperature 300 <sup>o</sup> C  | 11 g/10 min<br>@Load 22.0 lb,<br>Temperature 572 <sup>o</sup> F  | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |

| Mechanical Properties     | Metric   | English   | Comments                    |
|---------------------------|----------|-----------|-----------------------------|
| Hardness, H358/30         | 100 MPa  | 14500 psi | ISO 2039-1                  |
| Tensile Strength at Break | 90.0 MPa | 13100 psi | Type I, 5 mm/min; ASTM D638 |
|                           | 90.0 MPa | 13100 psi | 5 mm/min; ISO 527           |
| Tensile Strength, Yield   | 90.0 MPa | 13100 psi | Type I, 5 mm/min; ASTM D638 |
|                           | 90.0 MPa | 13100 psi | 5 mm/min; ISO 527           |
| Elongation at Break       | 2.0 %    | 2.0 %     | 5 mm/min; ISO 527           |
|                           | 3.0 %    | 3.0 %     | Type I, 5 mm/min; ASTM D638 |
| Elongation at Yield       | 2.0 %    | 2.0 %     | 5 mm/min; ISO 527           |

| Mechanical Properties          | Metric                   | English                    | Comments                           |
|--------------------------------|--------------------------|----------------------------|------------------------------------|
|                                |                          |                            | Type I, 5 mm/min; ASTM D638        |
| Tensile Modulus                | 5.50 GPa                 | 798 ksi                    | 5 mm/min; ASTM D638                |
|                                | 6.00 GPa                 | 870 ksi                    | 1 mm/min; ISO 527                  |
| Flexural Strength              | 135 MPa                  | 19600 psi                  | 2 mm/min; ISO 178                  |
| Flexural Yield Strength        | 145 MPa                  | 21000 psi                  | 1.3 mm/min, 50 mm span; ASTM D790  |
| Flexural Modulus               | 4.50 GPa                 | 653 ksi                    | 2 mm/min; ISO 178                  |
|                                | 4.80 GPa                 | 696 ksi                    | 1.3 mm/min, 50 mm span; ASTM D790  |
| Izod Impact, Notched           | 0.600 J/cm               | 1.12 ft-lb/in              | ASTM D256                          |
|                                | 0.500 J/cm               | 0.937 ft-lb/in             | ASTM D256                          |
|                                | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |                                    |
| Izod Impact, Unnotched (ISO)   | 25.0 kJ/m <sup>2</sup>   | 11.9 ft-lb/in <sup>2</sup> | 80*10*4; ISO 180/1U                |
|                                | 25.0 kJ/m <sup>2</sup>   | 11.9 ft-lb/in <sup>2</sup> | 80*10*4; ISO 180/1U                |
|                                | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |                                    |
| Charpy Impact Unnotched        | 2.50 J/cm <sup>2</sup>   | 11.9 ft-lb/in <sup>2</sup> | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
|                                | 2.50 J/cm <sup>2</sup>   | 11.9 ft-lb/in <sup>2</sup> | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
|                                | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |                                    |
| Dart Drop, Total Energy        | 14.0 J                   | 10.3 ft-lb                 | ASTM D3763                         |
|                                | @Temperature 23.0<br>°C  | @Temperature 73.4 °F       |                                    |
| Taber Abrasion, mg/1000 Cycles | 45                       | 45                         | CS-17, 1 kg; SABIC Method          |

| Thermal Properties              | Metric                           | English                         | Comments    |
|---------------------------------|----------------------------------|---------------------------------|-------------|
| CTE, linear, Parallel to Flow   | 30.0 Åµm/m-Å°C                   | 16.7 Åµin/in-Å°F                | ISO 11359-2 |
|                                 | @Temperature 23.0 -<br>80.0 Å°C  | @Temperature 73.4 -<br>176 Å°F  |             |
|                                 | 40.0 Åµm/m-Å°C                   | 22.2 Åµin/in-Å°F                | ASTM E 831  |
|                                 | @Temperature -40.0 -<br>40.0 Å°C | @Temperature -40.0 -<br>104 Å°F |             |
| CTE, linear, Transverse to Flow | 50.0 Åµm/m-Å°C                   | 27.8 Åµin/in-Å°F                | ASTM E 831  |

| Thermal Properties                             | Metric<br>@Temperature -40.0 -<br>40.0 Â°C | English<br>@Temperature -40.0 -<br>104 Â°F | Comments                              |
|--|--|--|---------------------------------------|
|  | 70.0 Âµm/m-Â°C                             | 38.9 Âµin/in-Â°F                           | ISO 11359-2                           |
|  | @Temperature 23.0 -<br>80.0 Â°C            | @Temperature 73.4 -<br>176 Â°F             |                                       |
| Thermal Conductivity                           | 0.260 W/m-K                                | 1.80 BTU-in/hr-ftÂ²-<br>Â°F                | ISO 8302                              |
| Hot Ball Pressure Test                         | <= 165 Â°C                                 | <= 329 Â°F                                 | IEC 60695-10-2                        |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 170 Â°C                                    | 338 Â°F                                    | Edgew 120*10*4 sp=100mm; ISO<br>75/Be |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 160 Â°C                                    | 320 Â°F                                    | Edgew 120*10*4 sp=100mm; ISO<br>75/Ae |
|  | 171 Â°C                                    | 340 Â°F                                    | unannealed; ASTM D648                 |
|  | @Thickness 3.20 mm                         | @Thickness 0.126 in                        |                                       |
| Vicat Softening Point                          | 170 Â°C                                    | 338 Â°F                                    | Rate B/50; ISO 306                    |
|  | 180 Â°C                                    | 356 Â°F                                    | Rate B/120; ISO 306                   |
|  | 180 Â°C                                    | 356 Â°F                                    | Rate A/50; ISO 306                    |
|  | 181 Â°C                                    | 358 Â°F                                    | Rate B/50; ASTM D1525                 |
| UL RTI, Electrical                             | 65.0 Â°C                                   | 149 Â°F                                    | UL 746B                               |
| UL RTI, Mechanical with Impact                 | 65.0 Â°C                                   | 149 Â°F                                    | UL 746B                               |
| UL RTI, Mechanical without Impact              | 65.0 Â°C                                   | 149 Â°F                                    | UL 746B                               |
| Flammability, UL94                             | HB   | HB   | UL 94                                 |
|  | @Thickness 1.50 mm                         | @Thickness 0.0591 in                       |                                       |
|  | HB   | HB   | UL 94                                 |
|  | @Thickness 3.00 mm                         | @Thickness 0.118 in                        |                                       |
| Oxygen Index                                   | 23 %                                       | 23 %                                       | ISO 4589                              |
| Glow Wire Test                                 | 960 Â°C                                    | 1760 Â°F                                   | IEC 60695-2-12                        |
|  | @Thickness 3.20 mm                         | @Thickness 0.126 in                        |                                       |

| Electrical Properties | Metric          | English         | Comments       |
|-----------------------|-----------------|-----------------|----------------|
| Volume Resistivity    | 1.00e+15 ohm-cm | 1.00e+15 ohm-cm | IEC 60093      |
| Surface Resistance    | >= 1.00e+15 ohm | >= 1.00e+15 ohm | ROA; IEC 60093 |
|                       | 2.6             | 2.6             |                |

| Dielectric Constant<br>Electrical Properties | Metric<br>@Frequency 1.00e+6<br>Hz | English<br>@Frequency 1.00e+6<br>Hz | IEC 60250<br>Comments |
|--|------------------------------------|-------------------------------------|-----------------------|
|  | 2.7                                | 2.7                                 | IEC 60250             |
|  | @Frequency 50.0 - 60.0<br>Hz       | @Frequency 50.0 - 60.0<br>Hz        |                       |
| Dielectric Strength                          | 16.0 kV/mm                         | 406 kV/in                           | in oil; IEC 60243-1   |
|  | @Thickness 3.20 mm                 | @Thickness 0.126 in                 |                       |
|  | 26.0 kV/mm                         | 660 kV/in                           | in oil; IEC 60243-1   |
|  | @Thickness 1.60 mm                 | @Thickness 0.0630 in                |                       |
|  | 30.0 kV/mm                         | 762 kV/in                           | in oil; IEC 60243-1   |
|  | @Thickness 0.800 mm                | @Thickness 0.0315 in                |                       |
| Dissipation Factor                           | 0.0020                             | 0.0020                              | IEC 60250             |
|  | @Frequency 1.00e+6<br>Hz           | @Frequency 1.00e+6<br>Hz            |                       |
|  | 0.0060                             | 0.0060                              | IEC 60250             |
|  | @Frequency 50.0 - 60.0<br>Hz       | @Frequency 50.0 - 60.0<br>Hz        |                       |
| Comparative Tracking Index                   | 200 V                              | 200 V                               | IEC 60112             |

| Descriptive Properties              | Value  | Comments       |
|-------------------------------------|--------|----------------|
| Ball Pressure Test, 125Å°C +/- 2Å°C | PASSES | IEC 60695-10-2 |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China