

## SABIC Innovative Plastics NORYL FXN4020H PPE+HIPS (Asia Pacific)

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

### Material Notes:

high gloss Noryl

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[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-FXN4020H-PPEHIPS-Asia-Pacific.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-FXN4020H-PPEHIPS-Asia-Pacific.php)

| Physical Properties            | Metric                                               | English                                              | Comments                                |
|--------------------------------|------------------------------------------------------|------------------------------------------------------|-----------------------------------------|
| Specific Gravity               | 1.11 g/cc                                            | 1.11 g/cc                                            | ASTM D792                               |
| Density                        | 1.11 g/cc                                            | 0.0401 lb/in <sup>3</sup>                            | ISO 1183                                |
| Water Absorption at Saturation | 0.060 %                                              | 0.060 %                                              | ISO 62                                  |
| Linear Mold Shrinkage, Flow    | 0.0050 - 0.0070 cm/cm<br>@Thickness 3.20 mm          | 0.0050 - 0.0070 in/in<br>@Thickness 0.126 in         | SABIC Method                            |
| Melt Flow                      | 25 g/10 min<br>@Load 5.00 kg,<br>Temperature 250 Â°C | 25 g/10 min<br>@Load 11.0 lb,<br>Temperature 482 Â°F | ASTM D1238                              |
| Melt Index of Compound         | 25 g/10 min<br>@Load 2.16 kg,<br>Temperature 280 Â°C | 25 g/10 min<br>@Load 4.76 lb,<br>Temperature 536 Â°F | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |

| Mechanical Properties     | Metric   | English   | Comments                     |
|---------------------------|----------|-----------|------------------------------|
| Tensile Strength at Break | 46.0 MPa | 6670 psi  | 50 mm/min; ISO 527           |
|                           | 55.0 MPa | 7980 psi  | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield   | 58.0 MPa | 8410 psi  | 50 mm/min; ISO 527           |
|                           | 67.0 MPa | 9720 psi  | Type I, 50 mm/min; ASTM D638 |
| Elongation at Break       | 4.4 %    | 4.4 %     | 50 mm/min; ISO 527           |
|                           | 5.2 %    | 5.2 %     | Type I, 50 mm/min; ASTM D638 |
| Elongation at Yield       | 3.3 %    | 3.3 %     | 50 mm/min; ISO 527           |
|                           | 3.6 %    | 3.6 %     | Type I, 50 mm/min; ASTM D638 |
| Tensile Modulus           | 2.50 GPa | 363 ksi   | 1 mm/min; ISO 527            |
|                           | 2.56 GPa | 371 ksi   | 5 mm/min; ASTM D638          |
| Flexural Yield Strength   | 85.0 MPa | 12300 psi | 2 mm/min; ISO 178            |

| Mechanical Properties      | Metric                 | English                | Comments                           |
|----------------------------|------------------------|------------------------|------------------------------------|
| Flexural Modulus           | 2.50 GPa               | 363 ksi                | 2 mm/min; ISO 178                  |
|                            | 2.73 GPa               | 396 ksi                | 1.3 mm/min, 50 mm span; ASTM D790  |
| Izod Impact, Notched       | 0.850 J/cm             | 1.59 ft-lb/in          | ASTM D256                          |
|                            | 0.200 J/cm             | 0.375 ft-lb/in         | ASTM D256                          |
|                            | @Temperature -30.0 Å°C | @Temperature -22.0 Å°F |                                    |
| Izod Impact, Notched (ISO) | 8.00 kJ/mÅ²            | 3.81 ft-lb/inÅ²        | 80*10*4; ISO 180/1A                |
|                            | 4.00 kJ/mÅ²            | 1.90 ft-lb/inÅ²        | 80*10*4; ISO 180/1A                |
|                            | @Temperature -30.0 Å°C | @Temperature -22.0 Å°F |                                    |
| Charpy Impact, Notched     | 1.00 J/cmÅ²            | 4.76 ft-lb/inÅ²        | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
| Dart Drop, Total Energy    | 30.0 J                 | 22.1 ft-lb             | ASTM D3763                         |
|                            | @Temperature 23.0 Å°C  | @Temperature 73.4 Å°F  |                                    |

| Thermal Properties                          | Metric                        | English                      | Comments                         |
|---------------------------------------------|-------------------------------|------------------------------|----------------------------------|
| CTE, linear, Parallel to Flow               | 77.0 Åµm/m-Å°C                | 42.8 Åµin/in-Å°F             | ASTM E 831                       |
|                                             | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F |                                  |
|                                             | 77.0 Åµm/m-Å°C                | 42.8 Åµin/in-Å°F             | ISO 11359-2                      |
|                                             | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F |                                  |
| CTE, linear, Transverse to Flow             | 79.0 Åµm/m-Å°C                | 43.9 Åµin/in-Å°F             | ASTM E 831                       |
|                                             | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F |                                  |
|                                             | 79.0 Åµm/m-Å°C                | 43.9 Åµin/in-Å°F             | ISO 11359-2                      |
|                                             | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F |                                  |
| Deflection Temperature at 1.8 MPa (264 psi) | 75.0 Å°C                      | 167 Å°F                      | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|                                             | 75.0 Å°C                      | 167 Å°F                      | unannealed; ASTM D648            |
|                                             | @Thickness 3.20 mm            | @Thickness 0.126 in          |                                  |
|                                             | 83.0 Å°C                      | 181 Å°F                      | unannealed; ASTM D648            |

| Thermal Properties    | @Thickness 6.40 mm<br>Metric | @Thickness 0.252 in<br>English | Comments              |
|-----------------------|------------------------------|--------------------------------|-----------------------|
| Vicat Softening Point | 96.0 Â°C                     | 205 Â°F                        | Rate B/50; ASTM D1525 |
|                       | 96.0 Â°C                     | 205 Â°F                        | Rate B/50; ISO 306    |
|                       | 98.0 Â°C                     | 208 Â°F                        | Rate B/120; ISO 306   |
| Flammability, UL94    | V-1                          | V-1                            | UL 94 by SABIC-IP     |
|                       | @Thickness 1.50 mm           | @Thickness 0.0591 in           |                       |
|                       | V-0                          | V-0                            | UL 94 by SABIC-IP     |
|                       | @Thickness 2.50 mm           | @Thickness 0.0984 in           |                       |

## 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