

## SABIC Innovative Plastics NORYL WCP821 PPE-TPE

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyphenylene Ether/PPO

### Material Notes:

Flexible Noryl® injection molding grade. Low specific gravity with very good non-halogenated flame retardant performance. Developed for evaluation in over-molding applications such as plugs, strain relief's, and connectors. UL 94-V0 performance with good processability.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-WCP821-PPE-TPE.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-WCP821-PPE-TPE.php)

| Physical Properties               | Metric                                               | English                                              | Comments   |
|-----------------------------------|------------------------------------------------------|------------------------------------------------------|------------|
| Specific Gravity                  | 1.05 g/cc                                            | 1.05 g/cc                                            | ASTM D792  |
| Water Absorption                  | 0.10 %<br>@Time 173000 sec                           | 0.10 %<br>@Time 48.0 hour                            | ASTM D570  |
| Linear Mold Shrinkage, Flow       | 0.0048 cm/cm<br>@Time 86400 sec                      | 0.0048 in/in<br>@Time 24.0 hour                      | ASTM D955  |
| Linear Mold Shrinkage, Transverse | 0.0109 cm/cm<br>@Time 86400 sec                      | 0.0109 in/in<br>@Time 24.0 hour                      | ASTM D955  |
| Melt Flow                         | 31 g/10 min<br>@Load 5.00 kg,<br>Temperature 210 Â°C | 31 g/10 min<br>@Load 11.0 lb,<br>Temperature 410 Â°F | ASTM D1238 |
|                                   | 33 g/10 min<br>@Load 2.16 kg,<br>Temperature 250 Â°C | 33 g/10 min<br>@Load 4.76 lb,<br>Temperature 482 Â°F | ASTM D1238 |

| Mechanical Properties     | Metric    | English  | Comments                            |
|---------------------------|-----------|----------|-------------------------------------|
| Hardness, Shore A         | 82        | 82       | 30S reading; ASTM D2240             |
| Tensile Strength at Break | 10.0 MPa  | 1450 psi | Type I, 50 mm/min; ASTM D638        |
|                           | 10.0 MPa  | 1450 psi | 50 mm/min; ISO 527                  |
| Elongation at Break       | 115 %     | 115 %    | 50 mm/min; ISO 527                  |
|                           | 125 %     | 125 %    | Type I, 50 mm/min; ASTM D638        |
| Flexural Modulus          | 0.110 GPa | 16.0 ksi | 12.5 mm/min, 100 mm span; ASTM D790 |
|                           | 0.130 GPa | 18.9 ksi | 12.5 mm/min; ISO 178                |
| Tear Strength             | 17.0 kN/m | 97.0 pli | ISO 6383                            |

| Thermal Properties      | Metric                        | English                         | Comments       |
|-------------------------|-------------------------------|---------------------------------|----------------|
| Brittleness Temperature | <= -40.0 Â°C                  | <= -40.0 Â°F                    | ASTM D746      |
| Flammability, UL94      | V-0<br>@Thickness 5.00 mm     | V-0<br>@Thickness 0.197 in      | UL 94          |
| Oxygen Index            | 25 %                          | 25 %                            | ISO 4589       |
| Glow Wire Test          | 800 Â°C                       | 1470 Â°F                        | IEC 60695-2-13 |
|                         | 850 Â°C<br>@Thickness 3.00 mm | 1560 Â°F<br>@Thickness 0.118 in | IEC 60695-2-12 |

| Electrical Properties      | Metric                           | English                           | Comments            |
|----------------------------|----------------------------------|-----------------------------------|---------------------|
| Volume Resistivity         | 2.20e+15 ohm-cm                  | 2.20e+15 ohm-cm                   | ASTM D257           |
| Dielectric Constant        | 2.7<br>@Frequency 1.00e+6 Hz     | 2.7<br>@Frequency 1.00e+6 Hz      | IEC 60250           |
| Dielectric Strength        | 25.0 kV/mm<br>@Thickness 2.00 mm | 635 kV/in<br>@Thickness 0.0787 in | in oil; IEC 60243-1 |
| Dissipation Factor         | 0.0040<br>@Frequency 1.00e+6 Hz  | 0.0040<br>@Frequency 1.00e+6 Hz   | IEC 60250           |
| Comparative Tracking Index | 600 V                            | 600 V                             | IEC 60112           |

| Descriptive Properties                            | Value | Comments   |
|---------------------------------------------------|-------|------------|
| Smoke Density on 0.5mm plaque, Flame, Ds, max     | 90    | ASTM E 662 |
| Smoke Density on 0.5mm plaque, Non-flame, Ds, max | 70    | ASTM E 662 |

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