

## SABIC Innovative Plastics NORYL WCA901 PPE-TPE

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

### Material Notes:

Non-Halogenated flame retardant, flexible Noryl resin intended for evaluation in wire and cable applications, capable of meeting VW-1 and 105°C end use temperature requirements as defined by UL 1581. Good processing performance by using standard extrusion equipment.

UL1581 tests conducted on 2.0 mm wire with 0.12 mm x 20 stranded copper conductor.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-WCA901-PPE-TPE.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-WCA901-PPE-TPE.php)

| Physical Properties | Metric                                | English                               | Comments   |
|---------------------|---------------------------------------|---------------------------------------|------------|
| Specific Gravity    | 1.10 g/cc                             | 1.10 g/cc                             | ASTM D792  |
| Melt Flow           | 10 g/10 min                           | 10 g/10 min                           | ASTM D1238 |
|                     | @Load 10.0 kg,<br>Temperature 250 Å°C | @Load 22.0 lb,<br>Temperature 482 Å°F |            |

| Mechanical Properties     | Metric                                 | English                                | Comments                            |
|---------------------------|--|--|-------------------------------------|
| Hardness, Shore A         | 91                                     | 91                                     | 30S reading; ASTM D2240             |
| Tensile Strength at Break | 22.0 MPa                               | 3190 psi                               | 50 mm/min; ISO 527                  |
|                           | 23.0 MPa                               | 3340 psi                               | Type I, 50 mm/min; ASTM D638        |
|                           | 26.0 MPa                               | 3770 psi                               | UL 1581                             |
|                           | 27.0 MPa                               | 3920 psi                               | after 7days @136Å°C; UL 1581        |
| Elongation at Break       | 95 %                                   | 95 %                                   | 50 mm/min; ISO 527                  |
|                           | 110 %                                  | 110 %                                  | Type I, 50 mm/min; ASTM D638        |
|                           | 127 %                                  | 127 %                                  | after 7days @136Å°C; UL 1581        |
|                           | 190 %                                  | 190 %                                  | UL 1581                             |
| Flexural Modulus          | 0.390 GPa                              | 56.6 ksi                               | 12.5 mm/min, 100 mm span; ASTM D790 |
|                           | 0.390 GPa                              | 56.6 ksi                               | 12.5 mm/min; ISO 178                |
| Tear Strength             | 13.0 kN/m                              | 74.2 pli                               | ISO 6383                            |
| Heat Distortion           | 15 %                                   | 15 %                                   | UL 1581                             |
|                           | @Load 0.250 kg,<br>Temperature 121 Å°C | @Load 0.551 lb,<br>Temperature 250 Å°F |                                     |

| Thermal Properties               | Metric                        | English                         | Comments                       |
|----------------------------------|-------------------------------|---------------------------------|--------------------------------|
| Maximum Service Temperature, Air | 105 Â°C                       | 221 Â°F                         | UL temperature rating; UL 1581 |
| Brittleness Temperature          | <= -40.0 Â°C                  | <= -40.0 Â°F                    | ASTM D746                      |
| Flammability, UL94               | V-0<br>@Thickness 6.00 mm     | V-0<br>@Thickness 0.236 in      | UL 94 by SABIC-IP              |
| Oxygen Index                     | 27 %                          | 27 %                            | ISO 4589                       |
| Glow Wire Test                   | 775 Â°C                       | 1430 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         | 5.10e+15 ohm-cm                 | 5.10e+15 ohm-cm                 | ASTM D257 |
| Surface Resistance         | 4.20e+16 ohm                    | 4.20e+16 ohm                    | ASTM D257 |
| Dielectric Constant        | 2.7<br>@Frequency 1.00e+6 Hz    | 2.7<br>@Frequency 1.00e+6 Hz    | IEC 60250 |
| 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 |
|------------------------|-------|----------|
| VW-1                   | Pass  | UL 1581  |

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