

# NORYL PPX™ RESIN PPX640

REGION EUROPE

## DESCRIPTION

NORYL PPX640 resin is a 40% glass fiber reinforced alloy of polyphenylene ether (PPE) + Polypropylene (PP). This injection moldable grade exhibits high stiffness along with temperature performance, impact resistance, hydrolytic stability, and dimensional stability. NORYL PPX640 resin is an excellent candidate for applications requiring a good chemical resistance and high stiffness.

### GENERAL INFORMATION

**Features**

Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Creep resistant, Dimensional stability, High stiffness/Strength, High temperature resistance, Impact resistant, No PFAS intentionally added

**Fillers**

Glass Fiber

**Polymer Types**

Polyphenylene Ether + PP (PPE+PP)

**Processing Techniques**

Injection Molding

**INDUSTRY**

Automotive

Building and Construction

Electrical and Electronics

Industrial

**SUB INDUSTRY**

Heavy Truck

Water Management

Mobile Phone - Computer - Tablets

Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

**PROPERTIES****TYPICAL VALUES****UNITS****TEST METHODS****MECHANICAL <sup>(1)</sup>**

Taber Abrasion, CS-17, 1 kg

85

mg/1000cy

SABIC method

Tensile Stress, break, 5 mm/min

100

MPa

ISO 527

Tensile Strain, break, 5 mm/min

2.2

%

ISO 527

Tensile Modulus, 1 mm/min

9700

MPa

ISO 527

Flexural Stress, break, 2 mm/min

150

MPa

ISO 178

Flexural Modulus, 2 mm/min

8500

MPa

ISO 178

Ball Indentation Hardness, H358/30

100

MPa

ISO 2039-1

**IMPACT <sup>(1)</sup>**

Izod Impact, unnotched 80\*10\*4 +23°C

35

kJ/m<sup>2</sup>

ISO 180/1U

Izod Impact, unnotched 80\*10\*4 -30°C

30

kJ/m<sup>2</sup>

ISO 180/1U

Izod Impact, notched 80\*10\*4 +23°C

13

kJ/m<sup>2</sup>

ISO 180/1A

Izod Impact, notched 80\*10\*4 -30°C

10

kJ/m<sup>2</sup>

ISO 180/1A

Charpy 23°C, V-notch Edgew 80\*10\*4 sp=62mm

14

kJ/m<sup>2</sup>

ISO 179/1eA

Charpy -30°C, V-notch Edgew 80\*10\*4 sp=62mm

12

kJ/m<sup>2</sup>

ISO 179/1eA

Charpy 23°C, Unnotch Edgew 80\*10\*4 sp=62mm

50

kJ/m<sup>2</sup>

ISO 179/1eU

Charpy -30°C, Unnotch Edgew 80\*10\*4 sp=62mm

35

kJ/m<sup>2</sup>

ISO 179/1eU

**THERMAL <sup>(1)</sup>**

CTE, 23°C to 60°C, flow

1.6E-05

1/°C

ISO 11359-2

| PROPERTIES                                    | TYPICAL VALUES | UNITS                   | TEST METHODS   |
|-----------------------------------------------|----------------|-------------------------|----------------|
| CTE, 23°C to 60°C, xflow                      | 9.5E-05        | 1/°C                    | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C             | PASSES         | -                       | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50               | 138            | °C                      | ISO 306        |
| Vicat Softening Temp, Rate B/120              | 140            | °C                      | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm       | 158            | °C                      | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm       | 145            | °C                      | ISO 75/Ae      |
| <b>PHYSICAL <sup>(1)</sup></b>                |                |                         |                |
| Density                                       | 1.3            | g/cm <sup>3</sup>       | ISO 1183       |
| Melt Volume Rate, MVR at 260°C/5.0 kg         | 3              | cm <sup>3</sup> /10 min | ISO 1133       |
| <b>ELECTRICAL <sup>(1)</sup></b>              |                |                         |                |
| Volume Resistivity                            | >1.E+15        | Ω.cm                    | IEC 60093      |
| Surface Resistivity, ROA                      | >1.E+15        | Ω                       | IEC 60093      |
| Dielectric Strength, in oil, 3.2 mm           | 22             | kV/mm                   | IEC 60243-1    |
| Relative Permittivity, 1 MHz                  | 2.9            | -                       | IEC 60250      |
| Dissipation Factor, 50/60 Hz                  | 0.0003         | -                       | IEC 60250      |
| Dissipation Factor, 1 MHz                     | 0.0004         | -                       | IEC 60250      |
| Comparative Tracking Index <sup>(2)</sup>     | 425            | V                       | IEC 60112      |
| Relative Permittivity, 50/60 Hz               | 2.8            | -                       | IEC 60250      |
| <b>FLAME CHARACTERISTICS <sup>(3)</sup></b>   |                |                         |                |
| Glow Wire Flammability Index 750°C, passes at | 3.2            | mm                      | IEC 60695-2-12 |
| <b>INJECTION MOLDING <sup>(4)</sup></b>       |                |                         |                |
| Drying Temperature                            | 65 – 75        | °C                      |                |
| Drying Time                                   | 2 – 4          | Hrs                     |                |
| Maximum Moisture Content                      | 0.02           | %                       |                |
| Melt Temperature                              | 260 – 305      | °C                      |                |
| Nozzle Temperature                            | 260 – 305      | °C                      |                |
| Front - Zone 3 Temperature                    | 255 – 300      | °C                      |                |
| Middle - Zone 2 Temperature                   | 250 – 290      | °C                      |                |
| Rear - Zone 1 Temperature                     | 245 – 290      | °C                      |                |
| Hopper Temperature                            | 60 – 80        | °C                      |                |
| Mold Temperature                              | 40 – 65        | °C                      |                |

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Value shown here is based on internal measurement.

(3) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

## ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.



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