



**NORYL PPX™ Resin PPX640F**  
**Americas: COMMERCIAL**

40% GR PPE+PP. High elongation. high stiffness. NSF Standard 61 Compliant (color limited).

| TYPICAL PROPERTIES <sup>1</sup>              | TYPICAL VALUE | Unit                | Standard     |
|----------------------------------------------|---------------|---------------------|--------------|
| <b>MECHANICAL</b>                            |               |                     |              |
| Tensile Stress, yld, Type I, 5 mm/min        | 970           | kgf/cm <sup>2</sup> | ASTM D 638   |
| Tensile Stress, brk, Type I, 5 mm/min        | 970           | kgf/cm <sup>2</sup> | ASTM D 638   |
| Tensile Strain, brk, Type I, 5 mm/min        | 6.4           | %                   | ASTM D 638   |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 1530          | kgf/cm <sup>2</sup> | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 84700         | kgf/cm <sup>2</sup> | ASTM D 790   |
| <b>IMPACT</b>                                |               |                     |              |
| Izod Impact, unnotched, 23°C                 | 58            | cm-kgf/cm           | ASTM D 4812  |
| Izod Impact, notched, 23°C                   | 10            | cm-kgf/cm           | ASTM D 256   |
| Izod Impact, notched, -30°C                  | 9             | cm-kgf/cm           | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C       | 171           | cm-kgf              | ASTM D 3763  |
| Instrumented Impact Total Energy, -30°C      | 144           | cm-kgf              | ASTM D 3763  |
| <b>THERMAL</b>                               |               |                     |              |
| Vicat Softening Temp, Rate B/50              | 163           | °C                  | ASTM D 1525  |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 158           | °C                  | ASTM D 648   |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 146           | °C                  | ASTM D 648   |
| CTE, -40°C to 40°C, flow                     | 1.08E-05      | 1/°C                | ASTM E 831   |
| CTE, -40°C to 40°C, xflow                    | 6.3E-05       | 1/°C                | ASTM E 831   |
| <b>PHYSICAL</b>                              |               |                     |              |
| Specific Gravity                             | 1.3           | -                   | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm (5)             | 0.17 - 0.18   | %                   | SABIC Method |
| Mold Shrinkage, xflow, 3.2 mm (5)            | 0.27 - 0.61   | %                   | SABIC Method |
| Melt Flow Rate, 260°C/5.0 kgf                | 1.3           | g/10 min            | ASTM D 1238  |



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| PROCESSING PARAMETERS       | TYPICAL VALUE | Unit |
|-----------------------------|---------------|------|
| <b>Injection Molding</b>    |               |      |
| Drying Temperature          | 65 - 75       | °C   |
| Drying Time                 | 2 - 4         | hrs  |
| Drying Time (Cumulative)    | 8             | 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   |
| Mold Temperature            | 40 - 65       | °C   |
| Back Pressure               | 0.3 - 0.7     | MPa  |
| Screw Speed                 | 20 - 100      | rpm  |
| Shot to Cylinder Size       | 30 - 70       | %    |
| Vent Depth                  | 0.051 - 0.076 | mm   |