

# NORYL PPX™ RESIN PPX830

REGION AMERICAS

## DESCRIPTION

NORYL PPX830 Polyphenylene Oxide (PPO\*) + Polypropylene (PP) resin is a 30 % Glass Reinforced, injection moldable grade with a HDT / 1.8MPa temperature resistance of 153 deg C and a Tensile modulus of 7600 MPa; this grade has been developed for application where dimension stability, temperature and chemical resistance could be required. NORYL PPX830 is an opaque material available in limited colors only.

## TYPICAL PROPERTY VALUES

Revision 20250306

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS   |
|----------------------------------------------|----------------|-------|----------------|
| <b>MECHANICAL</b>                            |                |       |                |
| Tensile Stress, yld, Type I, 5 mm/min        | 101            | MPa   | ASTM D638      |
| Tensile Stress, brk, Type I, 5 mm/min        | 101            | MPa   | ASTM D638      |
| Tensile Strain, yld, Type I, 5 mm/min        | 2.9            | %     | ASTM D638      |
| Tensile Strain, brk, Type I, 5 mm/min        | 101            | %     | ASTM D638      |
| Tensile Modulus, 5 mm/min                    | 7600           | MPa   | ASTM D638      |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 144            | MPa   | ASTM D790      |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 6600           | MPa   | ASTM D790      |
| Tensile Stress, yield, 5 mm/min              | 98             | MPa   | ISO 527        |
| Tensile Stress, break, 5 mm/min              | 98             | MPa   | ISO 527        |
| Tensile Strain, yield, 5 mm/min              | 3.2            | %     | ISO 527        |
| Tensile Strain, break, 5 mm/min              | 3.2            | %     | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 7700           | MPa   | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 141            | MPa   | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 7100           | MPa   | ISO 178        |
| <b>IMPACT</b>                                |                |       |                |
| Izod Impact, unnotched, 23°C                 | 650            | J/m   | ASTM D4812     |
| Izod Impact, notched, 23°C                   | 95             | J/m   | ASTM D256      |
| Instrumented Dart Impact Total Energy, 23°C  | 15             | J     | ASTM D3763     |
| Instrumented Dart Impact Total Energy, -30°C | 10             | J     | ASTM D3763     |
| Izod Impact, unnotched 80*10*4 +23°C         | 42             | kJ/m² | ISO 180/1U     |
| Izod Impact, unnotched 80*10*4 -30°C         | 42             | kJ/m² | ISO 180/1U     |
| Izod Impact, notched 80*10*4 +23°C           | 10             | kJ/m² | ISO 180/1A     |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm   | 39             | kJ/m² | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm  | 36             | kJ/m² | ISO 179/1eU    |
| <b>THERMAL</b>                               |                |       |                |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 166            | °C    | ASTM D648      |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 156            | °C    | ASTM D648      |
| CTE, -40°C to 95°C, flow                     | 2.5E-05        | 1/°C  | ASTM E831      |
| CTE, -40°C to 95°C, xflow                    | 1.3E-04        | 1/°C  | ASTM E831      |
| CTE, -30°C to 80°C, flow                     | 2.5E-05        | 1/°C  | ISO 11359-2    |
| CTE, -30°C to 80°C, xflow                    | 1.2E-04        | 1/°C  | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C            | Passes         | -     | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/120             | 150            | °C    | ISO 306        |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 168            | °C    | ISO 75/Bf      |

| PROPERTIES                                    | TYPICAL VALUES | UNITS      | TEST METHODS   |
|-----------------------------------------------|----------------|------------|----------------|
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm         | 153            | °C         | ISO 75 /Af     |
| PHYSICAL                                      |                |            |                |
| Specific Gravity                              | 1.19           | -          | ASTM D792      |
| Mold Shrinkage, flow, 3.2 mm                  | 0.2 – 0.25     | %          | SABIC method   |
| Mold Shrinkage, xflow, 3.2 mm                 | 0.4 – 0.6      | %          | SABIC method   |
| Melt Flow Rate, 280°C/5.0 kgf                 | 6              | g/ 10 min  | ASTM D1238     |
| Density                                       | 1.19           | g/cm³      | ISO 1183       |
| Melt Volume Rate, MVR at 280°C/5.0 kg         | 6              | cm³/10 min | ISO 1133       |
| FLAME CHARACTERISTICS                         |                |            |                |
| UL Recognized, 94HB Flame Class Rating        | 1              | mm         | UL 94          |
| Glow Wire Flammability Index 650°C, passes at | 3              | mm         | IEC 60695-2-12 |
| INJECTION MOLDING                             |                |            |                |
| Drying Temperature                            | 65 – 75        | °C         |                |
| Drying Time                                   | 2 – 4          | Hrs        |                |
| Maximum Moisture Content                      | 0.02           | %          |                |
| Melt Temperature                              | 260 – 300      | °C         |                |
| Nozzle Temperature                            | 260 – 300      | °C         |                |
| Front - Zone 3 Temperature                    | 255 – 290      | °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         |                |

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