

# LNPT<sup>™</sup> KONDUIT<sup>™</sup> COMPOUND PX10323H

PX10323

REGION EUROPE

## DESCRIPTION

LNP KONDUIT PX10323H compound is based on Nylon 6 resin containing glass fiber. Added features of this grade include: Thermally Conductive and Healthcare.

### GENERAL INFORMATION

|                       |                                               |
|-----------------------|-----------------------------------------------|
| Features              | Thermally Conductive, Healthcare/Formula lock |
| Fillers               | Glass Fiber                                   |
| Polymer Types         | Polyamide 6 (Nylon 6)                         |
| Processing Techniques | Injection Molding                             |

### INDUSTRY

Hygiene and Healthcare  
Packaging

### SUB INDUSTRY

Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing  
Industrial Packaging

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                           | TYPICAL VALUES | UNITS             | TEST METHODS |
|------------------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>                     |                |                   |              |
| Tensile Stress, brk, Type I, 5 mm/min                | 70             | MPa               | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min                | 0.9            | %                 | ASTM D638    |
| Tensile Modulus, 50 mm/min                           | 10750          | MPa               | ASTM D638    |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span         | 95             | MPa               | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span             | 14200          | MPa               | ASTM D790    |
| Tensile Stress, break, 5 mm/min                      | 73             | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min                      | 0.8            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                            | 14000          | MPa               | ISO 527      |
| Flexural Stress, break, 2 mm/min                     | 96             | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                           | 14300          | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>                         |                |                   |              |
| Izod Impact, unnotched, 23°C                         | 73             | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                           | 30             | J/m               | ASTM D256    |
| Izod Impact, unnotched 80°10°4 +23°C                 | 6              | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80°10°4 +23°C                   | 3              | kJ/m <sup>2</sup> | ISO 180/1A   |
| <b>THERMAL <sup>(1)</sup></b>                        |                |                   |              |
| HDT, 1.82 MPa, 3.2mm, unannealed                     | 186            | °C                | ASTM D648    |
| CTE, -40°C to 40°C, flow                             | 1.61E-05       | 1/°C              | ASTM E831    |
| CTE, -40°C to 40°C, xflow                            | 3.56E-05       | 1/°C              | ASTM E831    |
| Thermal Conductivity through-plane, 60°60°3mm plaque | 1.5            | W/m-K             | ISO 22007-2  |
| Thermal Conductivity in-plane, 60°60°3mm plaque      | 18             | W/m-K             | ISO 22007-2  |

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| PROPERTIES                                           | TYPICAL VALUES | UNITS             | TEST METHODS   |
|------------------------------------------------------|----------------|-------------------|----------------|
| Thermal Conductivity through-plane, 10*10*3mm sample | 3.5            | W/m-K             | ASTM E1461-07  |
| Thermal Conductivity in-plane, 25*0.4mm disc         | 15             | W/m-K             | ASTM E1461-07  |
| CTE, -30°C to 80°C, flow                             | 1.4E-05        | 1/°C              | ISO 11359-2    |
| CTE, -30°C to 80°C, xflow                            | 3.95E-05       | 1/°C              | ISO 11359-2    |
| CTE, 23°C to 80°C, flow                              | 1.62E-05       | 1/°C              | ISO 11359-2    |
| CTE, 23°C to 80°C, xflow                             | 4.77E-05       | 1/°C              | ISO 11359-2    |
| Ball Pressure Test, 165°C +/- 2°C                    | PASSES         | -                 | IEC 60695-10-2 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm                | 201            | °C                | ISO 75 /Af     |
| <b>PHYSICAL <sup>(1)</sup></b>                       |                |                   |                |
| Density                                              | 1.61           | g/cm <sup>3</sup> | ASTM D792      |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>          | 0.2            | %                 | ASTM D955      |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup>         | 0.22           | %                 | ASTM D955      |
| Density                                              | 1.61           | g/cm <sup>3</sup> | ISO 1183       |
| <b>ELECTRICAL <sup>(1)</sup></b>                     |                |                   |                |
| Surface Resistivity                                  | 1.05E+06       | Ω                 | ASTM D257      |
| <b>FLAME CHARACTERISTICS</b>                         |                |                   |                |
| Glow Wire Flammability Index 650°C, passes at        | 1              | mm                | IEC 60695-2-12 |
| Glow Wire Flammability Index 850°C, passes at        | 1              | mm                | IEC 60695-2-12 |
| Glow Wire Flammability Index 960°C, passes at        | 1.6            | mm                | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.0 mm           | 825            | °C                | IEC 60695-2-13 |
| <b>INJECTION MOLDING <sup>(3)</sup></b>              |                |                   |                |
| Drying Temperature                                   | 80 – 90        | °C                |                |
| Drying Time                                          | 3 – 4          | Hrs               |                |
| Melt Temperature                                     | 270 – 300      | °C                |                |
| Nozzle Temperature                                   | 270 – 300      | °C                |                |
| Front - Zone 3 Temperature                           | 270 – 300      | °C                |                |
| Middle - Zone 2 Temperature                          | 270 – 300      | °C                |                |
| Rear - Zone 1 Temperature                            | 260 – 290      | °C                |                |
| Mold Temperature                                     | 80 – 100       | °C                |                |
| Back Pressure                                        | 3 – 9          | MPa               |                |
| Screw Speed                                          | 30 – 150       | rpm               |                |

(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) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) 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.

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