

LNPTM KONDUIT™ COMPOUND PX13322

DESCRIPTION

LNP KONDUIT PX13322 compound is based on Nylon 6 resin containing mineral and glass fiber. Added features of this grade include: Thermally Conductive, Electrically Insulative and Non-Brominated, Non-Chlorinated Flame Retardant.

| GENERAL INFORMATION | |
|-----------------------|--|
| Features | Flame Retardant, Thermally Conductive, Non Cl/Br flame retardant, Thermally conductive/Electrically isolative, No PFAS intentionally added |
| Fillers | Glass Fiber, Mineral |
| Polymer Types | Polyamide 6 (Nylon 6) |
| Processing Techniques | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|----------------------------|---|
| Building and Construction | Building Component |
| Consumer | Home Appliances |
| Electrical and Electronics | Mobile Phone - Computer - Tablets, Lighting |
| Industrial | Electrical, Material Handling |

TYPICAL PROPERTY VALUES

Revision 20241025

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------|--------------|
| MECHANICAL ⁽¹⁾ | | | |
| Tensile Stress, brk, Type I, 5 mm/min | 77 | MPa | ASTM D638 |
| Tensile Strain, brk, Type I, 5 mm/min | 0.7 | % | ASTM D638 |
| Tensile Modulus, 5 mm/min | 13700 | MPa | ASTM D638 |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 127 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 11000 | MPa | ASTM D790 |
| Tensile Stress, break, 5 mm/min | 78 | MPa | ISO 527 |
| Tensile Strain, break, 5 mm/min | 0.8 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 13000 | MPa | ISO 527 |
| Flexural Stress, break, 2 mm/min | 128 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 12000 | MPa | ISO 178 |
| IMPACT ⁽¹⁾ | | | |
| Izod Impact, unnotched, 23°C | 235 | J/m | ASTM D4812 |
| Izod Impact, notched, 23°C | 21 | J/m | ASTM D256 |
| Izod Impact, unnotched 80*10*4 +23°C | 16 | kJ/m² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 3 | kJ/m² | ISO 180/1A |
| THERMAL ⁽¹⁾ | | | |
| HDT, 0.45 MPa, 3.2 mm | 205 | °C | ASTM D648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 174 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 3.08E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 4.77E-05 | 1/°C | ASTM E831 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|-----------------------------------|-------------------|----------------|
| CTE, 40°C to 120°C, flow | 2.35E-05 | 1/°C | ASTM E83 1 |
| CTE, 40°C to 120°C, xflow | 5.25E-05 | 1/°C | ASTM E83 1 |
| Thermal Conductivity through-plane, 60*60*3mm plaque | 1 | W/m-K | ISO 22007-2 |
| Thermal Conductivity in-plane, 60*60*3mm plaque | 3.3 | W/m-K | ISO 22007-2 |
| Thermal Conductivity through-plane, 10*10*3mm sample | 2 | W/m-K | ASTM E1461-07 |
| Thermal Conductivity in-plane, 25*0.4mm disc | 3.4 | W/m-K | ASTM E1461-07 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 204 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 162 | °C | ISO 75/Af |
| Relative Temp Index, Elec ⁽²⁾ | 65 | °C | UL 746B |
| Relative Temp Index, Mech w/impact ⁽²⁾ | 65 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact ⁽²⁾ | 65 | °C | UL 746B |
| PHYSICAL ⁽¹⁾ | | | |
| Density | 1.69 | g/cm ³ | ASTM D792 |
| Mold Shrinkage, flow, 24 hrs ⁽³⁾ | 0.54 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs ⁽³⁾ | 0.57 | % | ASTM D955 |
| Water Absorption, (23°C/24hrs) | 0.06 | % | ISO 62-1 |
| ELECTRICAL ⁽¹⁾ | | | |
| Surface Resistivity | >1.E+15 | Ω | ASTM D257 |
| Dielectric Strength, in oil, 1.0 mm | >10 | kV/mm | ASTM D149 |
| Dielectric Constant (Dk), 1.1 GHz | 4.86 | - | ASTM ES 7-83 |
| Dissipation Factor (Df), 1.1 GHz | 0.0103 | - | ASTM ES 7-83 |
| Comparative Tracking Index ⁽⁴⁾ | 600 | V | IEC 60112 |
| Hot-Wire Ignition (HWI), PLC 0 | ≥1 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 1 | ≥0.8 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 0 | ≥0.8 | mm | UL 746A |
| FLAME CHARACTERISTICS ⁽²⁾ | | | |
| UL Yellow Card Link | E207780-101694795 | - | - |
| UL Recognized, 94V-0 Flame Class Rating | ≥0.8 | mm | UL 94 |
| Glow Wire Ignitability Temperature, 1.0 mm | 800 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 3.0 mm | 850 | °C | IEC 60695-2-13 |
| Glow Wire Flammability Index, 1.0 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 3.0 mm | 960 | °C | IEC 60695-2-12 |
| INJECTION MOLDING ⁽⁵⁾ | | | |
| Drying Temperature | 80 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.15 – 0.25 | % | |
| Melt Temperature | 270 – 295 | °C | |
| Front - Zone 3 Temperature | 270 – 290 | °C | |
| Middle - Zone 2 Temperature | 270 – 290 | °C | |
| Rear - Zone 1 Temperature | 260 – 275 | °C | |
| Mold Temperature | 85 – 100 | °C | |
| Back Pressure | 0.2 – 0.3 | MPa | |
| Screw Speed | 20 – 60 | 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) 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.
- (3) 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.
- (4) Value shown here is based on internal measurement.
- (5) 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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