# LNP™ KONDUIT™ Compound OX24854

## DESCRIPTION

LNP KONDUIT OX24854 compound is a 50% glass fiber and mineral reinforced polyphenylene sulfide. Added feature of this material include: High thermally conductivity and good electrically insulation property, high heat resistance, excellent dimensional stability with low coefficient of thermal expansion and moisture absorption.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Low Moisture Absorption, Dimensional stability, Thermally conductive/Electrically isolative, Tracking resistance, No PFAS intentionally added |
| **Fillers** | Mineral, Glass Fiber (Total fluorine >50ppm only from inorganic fluorine) |
| **Polymer Types** | Polyphenylene Sulfide, Linear (PPS, Linear) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Automotive | Automotive EV Batteries |
| Electrical and Electronics | Energy Management, Electronic Components |
| Industrial | Electrical |

## TYPICAL PROPERTY VALUES

Revision 20260907

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, brk, Type I, 5 mm/min** | 85 | MPa | ASTM D638 |
| **Tensile Strain, Break** | | | |
| Type I, 5 mm/min | 1.0 | % | ASTM D638 |
| 5 mm/min | 1.0 | % | ISO 527 |
| **Tensile Modulus, 5 mm/min** | 16200 | MPa | ASTM D638 |
| **Flexural Strength, 1.3 mm/min, 50 mm span** | 136 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 15800 | MPa | ASTM D790 |
| **Tensile Stress, break, 5 mm/min** | 87 | MPa | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 16300 | MPa | ISO 527 |
| **Flexural Strength, 2 mm/min** | 132 | MPa | ISO 178 |
| **Flexural Modulus, 2 mm/min** | 16000 | MPa | ISO 178 |
| IMPACT [1] | | | |
| **Izod impact, notched** | | | |
| 23°C | 38 | J/m | ASTM D256 |
| 80*10*4 +23°C | 4.0 | kJ/m² | ISO 180/1A |
| 80*10*4 0°C | 3.4 | kJ/m² | ISO 180/1A |
| **Izod Impact, Unnotched** | | | |
| 23°C | 170 | J/m | ASTM D4812 |
| 80*10*4 +23°C | 12 | kJ/m² | ISO 180/1U |
| 80*10*4 0°C | 10 | kJ/m² | ISO 180/1U |
| **Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm** | 4.0 | kJ/m² | ISO 179/1eA |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 13 | kJ/m² | ISO 179/1eU |
| THERMAL [1] | | | |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 276 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 260 | °C | ASTM D648 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 278 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 261 | °C | ISO 75/Af |
| CTE | | | |
| -40°C to 90°C, flow | 1.5E-5 | 1/°C | ASTM E831 |
| -40°C to 90°C, xflow | 3.0E-5 | 1/°C | ASTM E831 |
| -40°C to 40°C, flow | 1.5E-5 | 1/°C | ISO 11359-2 |
| -40°C to 40°C, xflow | 2.6E-5 | 1/°C | ISO 11359-2 |
| -40°C to 90°C, flow | 1.5E-5 | 1/°C | ISO 11359-2 |
| -40°C to 90°C, xflow | 2.9E-5 | 1/°C | ISO 11359-2 |
| -40°C to 125°C, flow | 1.6E-5 | 1/°C | ISO 11359-2 |
| -40°C to 125°C, xflow | 3.6E-5 | 1/°C | ISO 11359-2 |
| Thermal Conductivity through-plane, 10*10*3mm sample | 1.3 | W/m-K | ASTM E1461-07 |
| Thermal Conductivity in-plane, 25*0.4mm disc | 5.1 | W/m-K | ASTM E1461-07 |
| Specific Heat | 1.21 | J/g-°C | ASTM C351 |
| Relative Temp Index, Elec [2] | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [2] | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [2] | 130 | °C | UL 746B |
| PHYSICAL [1] | | | |
| Specific Gravity | 1.7 | - | ASTM D792 |
| Water Absorption, (23°C/24hrs) | 0.02 | % | ISO 62-1 |
| Moisture Absorption, (23°C/50% RH/24hrs) | 0.01 | % | ISO 62-4 |
| Mold Shrinkage, flow [3] | 0.2 – 0.3 | % | SABIC method |
| Mold Shrinkage, xflow [3] | 0.4 – 0.5 | % | SABIC method |
| ELECTRICAL [1] | | | |
| Surface Resistivity | >1.E+15 | Ω | ASTM D257 |
| Volume Resistivity | >1.E+15 | Ω.cm | ASTM D257 |
| Comparative Tracking Index (UL) {PLC} [2] | 2 | PLC Code | UL 746A |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E207780-104699490 | - | - |
| UL Recognized | | | |
| 94V-1 Flame Class Rating | 0.75 – 1.65 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 120 – 140 | °C | |
| Drying Time | 4 – 6 | Hrs | |
| Melt Temperature | 310 – 330 | °C | |
| Nozzle Temperature | 310 – 330 | °C | |
| Front - Zone 3 Temperature | 310 – 320 | °C | |
| Middle - Zone 2 Temperature | 300 – 320 | °C | |
| Rear - Zone 1 Temperature | 290 – 310 | °C | |
| Mold Temperature | 135 – 160 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **Screw Speed** | 50 – 100 | 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) 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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