

# LNPTM 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
Fillers	Glass Fiber, Mineral
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 20240924

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, brk, Type I, 5 mm/min	85	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.0	%	ASTM D638
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 Strain, break, 5 mm/min	1.0	%	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
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	38	J/m	ASTM D256
Izod Impact, unnotched, 23°C	170	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	4.0	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	12	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*4 0°C	3.4	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, unnotched 80*10*4 0°C	10	kJ/m <sup>2</sup>	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4.0	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	13	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL <sup>(1)</sup></b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	276	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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
<b>CTE</b>			
-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 <sup>(2)</sup>	130	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	130	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	130	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
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 <sup>(3)</sup>	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow <sup>(3)</sup>	0.4 – 0.5	%	SABIC method
<b>ELECTRICAL <sup>(1)</sup></b>			
Surface Resistivity	>1.E+15	Ω	ASTM D257
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Comparative Tracking Index (UL) {PLC} <sup>(2)</sup>	2	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="#">E207780-104699490</a>	-	-
<b>UL Recognized</b>			
94V-1 Flame Class Rating	0.75 – 1.65	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			
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	
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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