LNP™ KONDUIT™ COMPOUND PX11311

PX11311
REGION ASIA

DESCRIPTION

LNP KONDUIT PX11311 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
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 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	52	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	7240	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	76	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	9040	MPa	ASTM D790
Impact Strength	5.3 – 18.2	kJ/m²	ISO R179
IMPACT [1]			
Izod Impact, unnotched, 23°C	183	J/m	ASTM D4812
Izod Impact, notched, 23°C	43	J/m	ASTM D256
THERMAL [1]			
HDT, 1.82 MPa, 6.4 mm, unannealed	199	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.13E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	4.59E-05	1/°C	ASTM E831
CTE, 40°C to 120°C, flow	1.94E-05	1/°C	ASTM E831
CTE, 40°C to 120°C, xflow	6.95E-05	1/°C	ASTM E831
Specific Heat	1.42	J/g-°C	ASTM C351
Thermal Conductivity through-plane, 10*10*3mm sample	1.2	W/m-K	ASTM E1461-07
Thermal Conductivity in-plane, 25*0.4mm disc	2.1	W/m-K	ASTM E1461-07

CHEMISTRY THAT MATTERS™

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Thermal Conductivity through-plane, ?80*3mm discs	0.99	W/m-K	ISO 22007-2
Thermal Conductivity in-plane, ?80*3mm discs	1.38	W/m-K	ISO 22007-2
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	1.74	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.33	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.48	%	ASTM D955
Water Absorption, 23°C/24hrs	0.25	%	SABIC method
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate, MVR at 300°C/10.0 kg	49	cm³/10 min	ISO 1133
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	4.74	-	ASTM ES 7-83
Dissipation Factor (Df), 1.1 GHz	0.0077	-	ASTM ES 7-83
Comparative Tracking Index [4]	600	V	IEC 60112
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-101041511	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1	mm	UL 94
Glow Wire Ignitability Temperature, 1.0 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	850	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 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	

CHEMISTRY THAT MATTERS™

(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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.

CHEMISTRY THAT MATTERS™