LNP™ KONDUIT™ COMPOUND PX11313

PX11313

DESCRIPTION

LNP KONDUIT PX11313 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, 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 20260331

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	98	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.3	%	ASTM D638
Tensile Modulus, 5 mm/min	13280	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	167	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	176	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	12500	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	108	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.3	%	ISO 527
Tensile Modulus, 1 mm/min	13250	MPa	ISO 527
Flexural Stress, break, 2 mm/min	186	MPa	ISO 178
Flexural Modulus, 2 mm/min	13000	MPa	ISO 178
Impact Strength	2.4 – 27	kJ/m²	ISO R179
IMPACT [1]			
Izod Impact, unnotched, 23°C	326	J/m	ASTM D4812
Izod Impact, notched, 23°C	30	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	23	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	227	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	215	°C	ASTM D648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE			
40°C to 120°C, flow	4.05E-05	1/°C	ASTM E831
40°C to 120°C, xflow	8.54E-05	1/°C	ASTM E831
Thermal Conductivity through-plane, 10*10*3mm sample	1.4	W/m-K	ASTM E1461-07
Thermal Conductivity in-plane, 25*0.4mm disc	1.8	W/m-K	ASTM E1461-07
Thermal Conductivity through-plane, ?80*3mm discs	0.9	W/m-K	ISO 22007-2
Thermal Conductivity in-plane, ?80*3mm discs	1.9	W/m-K	ISO 22007-2
Ball Pressure Test			
125°C +/- 2°C	PASSES	-	IEC 60695-10-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	228	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	208	°C	ISO 75/Af
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	105	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	140	°C	UL 746B
PHYSICAL [1]			
Density	1.79	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.42	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.58	%	ASTM D955
Water Absorption, (23°C/24hrs)	0.04	%	ISO 62-1
Water Absorption, 23°C/24hrs	0.23	%	SABIC method
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
ELECTRICAL [1]			
Surface Resistivity	>1.E+15	Ω	ASTM D257
Dielectric Strength, in oil, 1.0 mm	>10	kV/mm	ASTM D149
Dielectric Constant			
1.1 GHz	4.84	-	ASTM ES 7-83
Dissipation Factor			
1.1 GHz	0.0099	-	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
Hot-Wire Ignition (HWI), PLC 3	≥0.8	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.8	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-101282911	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
UV-light, water exposure/immersion	F2	-	UL 746C
Glow Wire Ignitability Temperature, 1.0 mm	750	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	800	°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	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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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