LNP™ KONDUIT™ COMPOUND PX11311U

DESCRIPTION

LNP KONDUIT PX11311U is a compound based on PA6 resin containing mineral and glass fiber. Added features include thermally conductive, electrically isolative, improved UV stability and non-brominated, non-chlorinated FR.

TYPICAL PROPERTY VALUES

Revision 20200204

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, break, 5 mm/min	105	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.7	%	ISO 527
Tensile Modulus, 1 mm/min	12000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	170	MPa	ISO 178
Flexural Modulus, 2 mm/min	11000	MPa	ISO 178
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	25	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	3	kJ/m²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm	209	°C	ASTM D 648
CTE, -40°C to 40°C, flow	3.08E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	4.77E-05	1/°C	ASTM E 831
Thermal Conductivity through-plane, 60*60*3mm plaque	0.8	W/m-K	ISO 22007-2
Thermal Conductivity in-plane, 60*60*3mm plaque	1.5	W/m-K	ISO 22007-2
CTE, -30°C to 80°C, flow	3.46E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	6.04E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, flow	3.72E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.34E-05	1/°C	ISO 11359-2
Thermal Conductivity through-plane, ?80*3mm discs	1.1	W/m-K	ISO 22007-2
Thermal Conductivity in-plane, ?80*3mm discs	1.3	W/m-K	ISO 22007-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, 165°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/120	205	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	208	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	185	°C	ISO 75/Af
Relative Temp Index, Elec [1]	120	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	110	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	130	°C	UL 746B
PHYSICAL			
Mold Shrinkage, flow, 24 hrs	0.45	%	ISO 294
Mold Shrinkage, xflow, 24 hrs	0.65	%	ISO 294
Density	1.74	g/cm³	ISO 1183
Water Absorption, 23°C/24hrs	0.36	%	ISO 62-1
ELECTRICAL			
Surface Resistivity	1.E+16	Ohm	ASTM D 257

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dielectric Strength, in oil, 1.6 mm	15.9	kV/mm	ASTM D 149
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index [2]	600	V	IEC 60112
Hot-Wire Ignition (HWI), PLC 0	≥1	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1	mm	UL 746A
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E45329-101761336	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1	mm	UL 94
Glow Wire Ignitability Temperature, 1.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.6 mm	775	°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, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
INJECTION MOLDING			
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) 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.

(2) Value shown here is based on internal measurement.

DISCLAIMER