

LNP™ KONDUIT™ PX13322 compound

Polyamide 6

SABIC Innovative Plastics Asia Pacific

Message:

Thermally conductive mineral filled PA6 FR compounding

General Information			
Filler / Reinforcement	Mineral		
Features	Flame Retardant		
	Thermally Conductive		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.69	g/cm ³	ASTM D792
Molding Shrinkage			ASTM D955
Flow : 24 hr	0.54	%	
Across Flow : 24 hr	0.57	%	
Water Absorption (23°C, 24 hr)	0.060	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	13700	MPa	ASTM D638
--	13000	MPa	ISO 527-2/1
Tensile Strength			
Break ²	77.0	MPa	ASTM D638
Break	78.0	MPa	ISO 527-2/5
Tensile Elongation			
Break ³	0.70	%	ASTM D638
Break	0.80	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁴	11000	MPa	ASTM D790
-- ⁵	12000	MPa	ISO 178
Flexural Stress			
--	128	MPa	ISO 178
Break, 50.0 mm Span ⁶	127	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	21	J/m	ASTM D256
23°C ⁷	3.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	240	J/m	ASTM D4812

23°C ⁸	17	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	205	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ⁹	204	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 6.40 mm	174	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁰	162	°C	ISO 75-2/Af
CLTE			ASTM E831
Flow : -40 to 40°C	3.1E-5	cm/cm/°C	
Flow : 40 to 120°C	2.4E-5	cm/cm/°C	
Transverse : -40 to 40°C	4.8E-5	cm/cm/°C	
Transverse : 40 to 120°C	5.3E-5	cm/cm/°C	
Thermal Conductivity			
-- ¹¹	2.0	W/m/K	ASTM E1461
-- ¹²	3.4	W/m/K	ASTM E1461
-- ¹³	1.0	W/m/K	ISO 22007-2
-- ¹⁴	3.3	W/m/K	ISO 22007-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Dielectric Strength (1.00 mm, in Oil)	> 10	kV/mm	ASTM D149
Dielectric Constant (1.10 GHz)	4.86		ASTM E57-83
Dissipation Factor (1.10 GHz)	0.010		ASTM E57-83
Comparative Tracking Index	600	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 0		UL 746
Hot-wire Ignition (HWI)	PLC 1		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.800 mm)	V-0		UL 94
Glow Wire Flammability Index (1.00 to 3.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	800	°C	
3.00 mm	850	°C	
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.15 to 0.25	%	
Rear Temperature	260 to 275	°C	
Middle Temperature	270 to 290	°C	
Front Temperature	270 to 290	°C	
Processing (Melt) Temp	270 to 295	°C	
Mold Temperature	85.0 to 100	°C	
Back Pressure	0.200 to 0.300	MPa	

Screw Speed	20 to 60	rpm
NOTE		
1.	5.0 mm/min	
2.	Type I, 5.0 mm/min	
3.	Type I, 5.0 mm/min	
4.	1.3 mm/min	
5.	2.0 mm/min	
6.	1.3 mm/min	
7.	80*10*4	
8.	80*10*4	
9.	80*10*4 mm	
10.	80*10*4 mm	
11.	through-plane, 10*10*3mm sample	
12.	in-plane, $\varnothing 25 \times 0.4$ mm disc	
13.	through-plane, 60*60*3mm plaque	
14.	in-plane, 60*60*3mm plaque	

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