LNP™ KONDUIT™ Compound WTF2C

DESCRIPTION

LNP KONDUIT WTF2C compound is based on Polybutylene Terephthalate (PBT) resin containing mineral and glass fiber. Added features of this grade include Thermally Conductive, Electrically Insulative, CTI-0 and having a stable di-electric property over a wide temperature range.

GENERAL INFORMATION	
Features	Good Processability, Dielectrics, High temperature resistance, Thermally conductive/Electrically isolative, No PFAS intentionally added
Fillers	Mineral, Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors, Automotive Under the Hood
Electrical and Electronics	Electrical Components and Infrastructure
Hydrocarbon and Energy	Electric Vehicle

TYPICAL PROPERTY VALUES

Revision 20260206

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Strain, yld, Type I, 5 mm/min	2.6	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.6	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	7200	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	102	MPa	ASTM D790
Tensile Stress, brk, Type I, 5 mm/min	58	MPa	ASTM D638
Tensile Modulus, 5 mm/min	6400	MPa	ASTM D638
Tensile Strain, break, 5 mm/min	2.2	%	ISO 527
Tensile Strain, yield, 5 mm/min	2.2	%	ISO 527
Tensile Stress, break, 5 mm/min	64	MPa	ISO 527
Tensile Modulus, 1 mm/min	7000	MPa	ISO 527
IMPACT [1]			
Izod Impact, unnotched 80*10*4 +23°C	26	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, notched, 23°C	52	J/m	ASTM D256
THERMAL [1]			
Vicat Softening Temp, Rate B/50	208	°C	ISO 306
Vicat Softening Temp, Rate B/120	208	°C	ISO 306
Thermal Conductivity	1.03	W/m-°C	ISO 8302
Thermal Conductivity in-plane, 60*60*3mm plaque	1.2	W/m-K	ISO 22007-2
Thermal Conductivity through-plane, 60*60*3mm plaque	0.9	W/m-K	ISO 22007-2
CTE, -40°C to 150°C, flow	4.8E-5	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 150°C, xflow	1.1E-4	1/°C	ISO 11359-2
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	172	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	209	°C	ISO 75/Bf
HDT, 1.82 MPa, 3.2mm, unannealed	172	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	209	°C	ASTM D648
PHYSICAL (1)			
Density	2.23	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs)	0.03	%	ISO 62-4
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.06	%	ISO 62-4
Water Absorption, (23°C/24hrs)	0.073	%	ISO 62-1
Mold Shrinkage, flow, 24 hrs	0.95	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs	0.57	%	ASTM D955
Water Absorption, (23°C/24hrs)	0.073	%	ASTM D570
Specific Gravity	2.23	-	ASTM D792
Mold Shrinkage, flow (2)	0.43	%	SABIC method
Mold Shrinkage, xflow (2)	0.73	%	SABIC method
ELECTRICAL (1)			
Comparative Tracking Index	600	V	IEC 60112
Surface Resistivity, ROA	>1.0E-11	Ω	IEC 60093
Volume Resistivity	>1.0E-15	Ω.cm	IEC 60093
Surface Resistivity	>1.0E-11	Ω	ASTM D257
Volume Resistivity	>1.0E-15	Ω.cm	ASTM D257
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
INJECTION MOLDING (3)			
Screw Speed	60 – 100	rpm	
Back Pressure	0.3 – 0.7	MPa	
Mold Temperature	80 – 100	°C	
Nozzle Temperature	265 – 275	°C	
Front - Zone 3 Temperature	260 – 270	°C	
Middle - Zone 2 Temperature	250 – 260	°C	
Rear - Zone 1 Temperature	240 – 250	°C	
Melt Temperature	265 – 275	°C	
Maximum Moisture Content	0.02	%	
Drying Time (Cumulative)	2	Hrs	
Drying Time	2 – 3	Hrs	
Drying Temperature	110 – 120	°C	

(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) 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.

(3) 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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