LNP™ KONDUIT™ COMPOUND DTK22

EXKD1306

DESCRIPTION

LNP KONDUIT DTK22 compound is based on Polycarbonate (PC) resin containing minerals. Added features of this grade include: Thermally Conductive and Electrically Insulative.

GENERAL INFORMATION	
Features	Thermally Conductive, Thermally conductive/Electrically isolative
Fillers	Mineral
Polymer Types	Polycarbonate (PC)
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 20241025

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	41	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	5	%	ASTM D638
Tensile Modulus, 5 mm/min	3830	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	79	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	77	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3160	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	42	MPa	ISO 527
Tensile Strain, break, 5 mm/min	4.1	%	ISO 527
Tensile Modulus, 1 mm/min	3880	MPa	ISO 527
Flexural Stress, break, 2 mm/min	81	MPa	ISO 178
Flexural Modulus, 2 mm/min	4180	MPa	ISO 178
Impact Strength	13 – 48	kJ/m²	ISO R179
IMPACT [1]			
Izod Impact, unnotched, 23°C	700	J/m	ASTM D4812
Izod Impact, notched, 23°C	150	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	41	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm	127	°C	ASTM D648
HDT, 1.82 MPa, 3.2 mm	121	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 40°C to 120°C, flow	5.3E-05	1/°C	ASTM E831
CTE, 40°C to 120°C, xflow	8.5E-05	1/°C	ASTM E831
Thermal Conductivity through-plane, 60*60*3mm plaque	0.3	W/m-K	ISO 22007-2
Thermal Conductivity in-plane, 60*60*3mm plaque	1.3	W/m-K	ISO 22007-2
Thermal Conductivity through-plane, 10*10*3mm sample	0.6	W/m-K	ASTM E1461-07
Thermal Conductivity in-plane, 25*0.4mm disc	2	W/m-K	ASTM E1461-07
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	128	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Af
Relative Temp Index, Elec [2]	80	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	80	°C	UL 746B
PHYSICAL [1]			
Density	1.46	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.41	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.39	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
ELECTRICAL [1]			
Dielectric Constant (Dk), 1.1 GHz	3.66	-	ASTM ES 7-83
Dissipation Factor (Df), 1.1 GHz	0.0094	-	ASTM ES 7-83
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-102451424	-	-
UL Recognized, 94HB Flame Class Rating	≥0.5	mm	UL 94
Glow Wire Flammability Index, 0.8 mm	850	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	875	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.8 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 300	°C	
Nozzle Temperature	260 – 290	°C	
Front - Zone 3 Temperature	260 – 290	°C	
Middle - Zone 2 Temperature	260 – 290	°C	
Rear - Zone 1 Temperature	250 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 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) 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) 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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