LNP™ STAT-KON™ Compound DEF42

DCF-1006

DESCRIPTION

LNP STAT-KON DEF42 compound is based on Polycarbonate (PC) resin containing 20% glass fiber, 10% carbon fiber. Added features of this grade include: Electrically Conductive.

GENERAL INFORMATION	
Features	Electrically Conductive, Carbon fiber filled, High stiffness/Strength, No PFAS intentionally added
Fillers	Carbon Fiber, Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components
Industrial	Material Handling

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	123	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.4	%	ASTM D638
Tensile Modulus, 50 mm/min	11500	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	189	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	10200	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	125	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.4	%	ISO 527
Tensile Strain, break, 5 mm/min	2.6	%	ISO 527
Tensile Modulus, 1 mm/min	11410	MPa	ISO 527
Flexural Stress	186	MPa	ISO 178
Flexural Modulus, 2 mm/min	10240	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	684	J/m	ASTM D4812
Izod Impact, notched, 23°C	81	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	14	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	41	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	145	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	142	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.6E-05	1/°C	ASTM E831

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	1.6E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	146	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	143	°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]			
Specific Gravity	1.41	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.08	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [3]	0.06 – 0.08	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.4 – 0.6	%	ASTM D955
Density	1.4	g/cm³	ISO 1183
ELECTRICAL [1]			
Surface Resistivity [4]	1.E+02 – 1.E+05	Ω	ASTM D257
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-101345265	-	-
UL Yellow Card Link 2	E207780-101345225	-	-
UL Recognized, 94V-0 Flame Class Rating	≥2.4	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING [5]			
Drying Temperature	120	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	305 – 325	°C	
Front - Zone 3 Temperature	320 – 330	°C	
Middle - Zone 2 Temperature	310 – 320	°C	
Rear - Zone 1 Temperature	295 – 305	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 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) Measurement meets requirements as specified in ASTM D4496.

(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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