LNP™ THERMOCOMP™ COMPOUND LC00AEX1

DESCRIPTION

LNP THERMOCOMP LC00AEX1 compound is based on Polyetheretherketone (PEEK) resin containing 50% carbon fiber. Added features of this grade include: Electrically Conductive, Ultra High Modulus and Strength, Easy Molding, Excellent Wear Resistance and Low CTE.

GENERAL INFORMATION	
Features	Electrically Conductive, Good Processability, Wear resistant, Carbon fiber filled, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Carbon Fiber
Polymer Types	Polyetheretherketone (PEEK)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets
Industrial	Electrical, Material Handling

TYPICAL PROPERTY VALUES

Revision 20231204

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Flexural Strength, 1.3 mm/min, 50 mm span	383	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	37000	MPa	ASTM D790
Tensile Stress, brk, Type I, 5 mm/min	251	MPa	ASTM D638
Tensile Modulus, 5 mm/min	44000	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.3	%	ASTM D638
Flexural Strength, 2 mm/min	404	MPa	ISO 178
Flexural Modulus, 2 mm/min	39100	MPa	ISO 178
Tensile Stress, break, 5 mm/min	270	MPa	ISO 527
Tensile Modulus, 1 mm/min	44000	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.4	%	ISO 527
IMPACT [1]			
Izod Impact, notched, 23°C	68.1	J/m	ASTM D256
Izod Impact, unnotched, 23°C	503	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	7.7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	42.9	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6.7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	52	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	329	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	338	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	330	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	337	°C	ISO 75/Bf

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 120°C, flow	1.7E-06	1/°C	ASTM E831
CTE, -40°C to 120°C, xflow	4.8E-05	1/°C	ASTM E831
PHYSICAL [1]			
Specific Gravity	1.5	-	ASTM D792
Mold Shrinkage, flow, 24 hrs [2]	0.1 – 0.2	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.2 – 0.3	%	ASTM D955
Density	1.5	g/cm³	ASTM D792
Moisture Absorption (23°C / 50% RH)	0.01	%	ISO 62
ELECTRICAL [1]			
Surface Resistivity	1E6	Ω	ASTM D257
Volume Resistivity	1E6	Ω.cm	ASTM D257
INJECTION MOLDING [3]			
Drying Temperature	120 – 150	°C	
Drying Time	3 – 5	Hrs	
Nozzle Temperature	380 – 400	°C	
Melt Temperature	380 – 400	°C	
Front - Zone 3 Temperature	370 – 380	°C	
Middle - Zone 2 Temperature	360 – 370	°C	
Rear - Zone 1 Temperature	290 – 300	°C	
Mold Temperature	170 – 200	°C	
Screw Speed	50 – 100	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) 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.

DISCLAIMER