LNP™ THERMOCOMP™ COMPOUND 2X04505

PDX-FP-E-04505

DESCRIPTION

LNP THERMOCOMP 2X04505 compound is based on Ethylene Tetrafluoroethylene (ETFE) resin containing 20% carbon fiber. Added features of this grade include: Electrically Conductive.

GENERAL INFORMATION	
Features	Electrically Conductive, Carbon fiber filled, High stiffness/Strength
Fillers	Carbon Fiber
Polymer Types	Ethylene Tetrafluoroethylene Copolymer (ETFE)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Energy Management, Electronic Components
Industrial	Material Handling

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield	89	MPa	ISO 527
Tensile Stress, break	88	MPa	ISO 527
Tensile Strain, yield	4.6	%	ISO 527
Tensile Strain, break	4.9	%	ISO 527
Tensile Modulus, 1 mm/min	11580	MPa	ISO 527
Flexural Stress	319	MPa	ISO 178
Flexural Modulus	18800	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	87	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	85	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	4.8	%	ASTM D638
Tensile Modulus, 50 mm/min	15160	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	10340	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	23	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	58	kJ/m²	ISO 180/1U
Multiaxial Impact	8	J	ISO 6603
Izod Impact, notched, 23°C	272	J/m	ASTM D256
Izod Impact, unnotched, 23°C	1030	J/m	ASTM D4812
Instrumented Dart Impact Energy @ peak, 23°C	18	J	ASTM D3763
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	251	°C	ISO 75/Bf

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	207	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	1.20E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.80E-05	1/°C	ISO 11359-2
HDT, 0.45 MPa, 3.2 mm, unannealed	255	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	222	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.26E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.74E-05	1/°C	ASTM E831
PHYSICAL (1)			
Density	1.74	g/cm³	ISO 1183
Mold Shrinkage, flow, 24 hrs (2)	1.1	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (2)	1.9	%	ISO 294
Density	1.75	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs (2)	1 – 1.2	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (2)	1.8 – 2	%	ASTM D955
INJECTION MOLDING (3)			
Drying Temperature	120 – 150	°C	
Drying Time	4	Hrs	
Melt Temperature	315	°C	
Front - Zone 3 Temperature	330 – 345	°C	
Middle - Zone 2 Temperature	310 – 320	°C	
Rear - Zone 1 Temperature	280 – 295	°C	
Mold Temperature	95 – 120	°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) 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