LNP™ THERMOCOMP™ COMPOUND EC005

EC-1005
REGION AMERICAS

DESCRIPTION

LNP THERMOCOMP EC005 compound is based on Polyetherimide (PEI) resin containing 25% carbon fiber. Added features of this grade include: Electrically Conductive.

GENERAL INFORMATION	
Features	Electrically Conductive, Carbon fiber filled, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Carbon Fiber
Polymer Types	Polyetherimide (PEI)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Aerospace
Building and Construction	Building Component
Consumer	Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20230607

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	200	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.4	%	ASTM D638
Tensile Modulus, 5 mm/min	18300	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	275	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	274	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	16300	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	200	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.4	%	ISO 527
Tensile Modulus, 1 mm/min	18170	MPa	ISO 527
Flexural Modulus, 2 mm/min	16200	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	430	J/m	ASTM D4812
Izod Impact, notched, 23°C	45	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	10	J	ASTM D3763
Multiaxial Impact	3	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	11	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	24	kJ/m²	ISO 180/1U

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	210	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	206	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	2.71E-05	1/°C	ASTM E831
CTE, -30°C to 30°C, flow	2.05E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	2.71E-05	1/°C	ASTM D696
CTE, -40°C to 40°C, flow	1.92E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	2.71E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	212	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	207	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.38	-	ASTM D792
Density	1.365	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.17	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.07 – 0.09	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.5 – 0.7	%	ASTM D955
Mold Shrinkage, flow, 24 hrs [2]	0.1 – 0.3	%	ISO 294
Mold Shrinkage, xflow, 24 hrs [2]	0.3 – 0.5	%	ISO 294
Density	1.37	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.27	%	ISO 62
ELECTRICAL [1]			
Volume Resistivity	1.E+02 – 1.E+06	Ω.cm	ASTM D257
Surface Resistivity	1.E+02 – 1.E+05	Ω	ASTM D257
INJECTION MOLDING [3]			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	360 – 400	°C	
Rear - Zone 1 Temperature	360 – 380	°C	
Middle - Zone 2 Temperature	370 – 390	°C	
Front - Zone 3 Temperature	380 – 400	°C	
Nozzle Temperature	390 – 400	°C	
Mold Temperature	120 – 150	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw speed (Circumferential speed)	0.2 – 0.3	m/s	
Vent Depth	0.025 – 0.076	mm	

(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.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

DISCLAIMER