LNP™ THERMOCOMP™ Compound LC003E

Americas: COMMERCIAL

Also known as: LNP™ THERMOCOMP™ Compound LC-1003 EM
Product reorder name: LC003E

LNP THERMOCOMP™ LC003E is a compound based on Polyetheretherketone resin containing 15% Carbon Fiber. Added features of this material include: Easy Molding, Electrically Conductive

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, break	1560	kgf/cm²	ASTM D 638
Tensile Strain, break	1.8	%	ASTM D 638
Tensile Modulus, 50 mm/min	117400	kgf/cm²	ASTM D 638
Flexural Stress	2640	kgf/cm²	ASTM D 790
Flexural Modulus	97000	kgf/cm²	ASTM D 790
Tensile Stress, break	163	MPa	ISO 527
Tensile Strain, break	1.8	%	ISO 527
Tensile Modulus, 1 mm/min	10520	MPa	ISO 527
Flexural Stress	263	MPa	ISO 178
Flexural Modulus	9850	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	40	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	3	cm-kgf/cm	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	44	cm-kgf	ASTM D 3763
Multiaxial Impact	18	cm-kgf	ISO 6603
Izod Impact, unnotched 80*10*4 +23°C	29	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	270	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.36E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	5.19E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.36E-05	1/°C	ISO 11359-2

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.
(5) 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.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	298	°C	ISO 75/Af
PHYSICAL			
Density	1.33	g/cm³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.07	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs (5)	0.2 - 0.3	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs (5)	0.5 - 0.6	%	ASTM D 955
Mold Shrinkage, flow, 24 hrs (5)	0.28 - 0.31	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (5)	0.51 - 0.58	%	ISO 294
Density	1.33	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
ELECTRICAL			
Surface Resistivity	1.E+03 - 1.E+07	Ohm	ASTM D 257

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	150	°C
Drying Time	4 - 6	hrs
Front - Zone 3 Temperature	380 - 400	°C
Middle - Zone 2 Temperature	380 - 400	°C
Rear - Zone 1 Temperature	370 - 380	°C
Mold Temperature	175 - 190	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	60 - 100	rpm

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