LNP™ THERMOCOMP™ Compound EC005

Americas: COMMERCIAL

Also known as: LNP™ THERMOCOMP™ Compound EC-1005

Product reorder name: EC005

LNP THERMOCOMP™ EC005 is a compound based on Polyetherimide resin containing 25% Carbon Fiber. Added features of this material include: Electrically Conductive.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	2030	kgf/cm²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	1.4	%	ASTM D 638
Tensile Modulus, 50 mm/min	186600	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	2800	kgf/cm²	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	2790	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	166200	kgf/cm²	ASTM D 790
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			
Izod Impact, unnotched, 23°C	41	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	4	cm-kgf/cm	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	106	cm-kgf	ASTM D 3763
Multiaxial Impact	30	cm-kgf	ISO 6603
Instrumented Impact Total Energy, 23°C	118	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	24	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	210	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	204	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	2.71E-05	1/°C	ASTM E 831

(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			
CTE, -30°C to 30°C, flow	2.05E+01	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	2.71E+01	1/°C	ASTM D 696
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			
Specific Gravity	1.38	-	ASTM D 792
Density	1.365	g/cm³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.17	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs (5)	0.07 - 0.09	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs (5)	0.5 - 0.7	%	ASTM D 955
Mold Shrinkage, flow, 24 hrs (5)	0.1 - 0.3	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (5)	0.3 - 0.5	%	ISO 294
Density	1.37	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.27	%	ISO 62
ELECTRICAL			
Volume Resistivity	1.E+02 - 1.E+06	Ohm-cm	ASTM D 257
Surface Resistivity	1.E+02 - 1.E+05	Ohm	ASTM D 257

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	120 - 150	°C
Drying Time	4 - 6	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	360 - 365	°C
Front - Zone 3 Temperature	365 - 375	°C
Middle - Zone 2 Temperature	355 - 365	°C
Rear - Zone 1 Temperature	345 - 355	°C
Mold Temperature	120 - 150	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	60 - 100	rpm

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