LNP™ THERMOCOMP™ Compound 2C004

Americas: COMMERCIAL

Also known as: LNP™ THERMOCOMP™ Compound FP-EC-1004
Product reorder name: 2C004

LNP THERMOCOMP 2C004 is a compound based on ETFE resin containing 20% Carbon Fiber. Added features of this material include: Electrically Conductive.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, break	610	kgf/cm²	ASTM D 638
Tensile Strain, break	2.5	%	ASTM D 638
Tensile Modulus, 50 mm/min	135600	kgf/cm²	ASTM D 638
Flexural Stress	1090	kgf/cm²	ASTM D 790
Flexural Modulus	107500	kgf/cm²	ASTM D 790
Tensile Stress, break	59	MPa	ISO 527
Tensile Strain, break	2	%	ISO 527
Tensile Modulus, 1 mm/min	12180	MPa	ISO 527
Flexural Stress	120	MPa	ISO 178
Flexural Modulus	10550	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	59	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	18	cm-kgf/cm	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	142	cm-kgf	ASTM D 3763
Multiaxial Impact	61	cm-kgf	ISO 6603
Izod Impact, unnotched 80*10*4 +23°C	36	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	252	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	208	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.52E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	2.56E-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			
CTE, -40°C to 40°C, xflow	5.4E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	246	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	187	°C	ISO 75/Af
PHYSICAL			
Density	1.75	g/cm³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.09	%	ASTM D 570
Mold Shrinkage, flow, 24 hrs (5)	0.7	%	ASTM D 955
Mold Shrinkage, xflow, 24 hrs (5)	2.2	%	ASTM D 955
Mold Shrinkage, flow, 24 hrs (5)	0.65	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (5)	2.22	%	ISO 294
Density	1.74	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.12	%	ISO 62

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(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
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

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