

# LNPT<sup>™</sup> THERMOCOMP<sup>™</sup> COMPOUND 6F006I

## DESCRIPTION

LNP THERMOCOMP 6F006I compound is based on Polycarbonate / Polybutylene Terephthalate (PC/PBT) blend containing 30% glass fiber. Added features of this grade include: Impact Modified.

GENERAL INFORMATION	
Features	High stiffness/Strength, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Sport/Leisure, Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 5 mm/min	97	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	91	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D638
Tensile Modulus, 5 mm/min	9750	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	150	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	138	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5370	MPa	ASTM D790
Hardness, Rockwell R	109	-	ASTM D785
Tensile Stress, yield, 5 mm/min	105	MPa	ISO 527
Tensile Stress, break, 5 mm/min	105	MPa	ISO 527
Tensile Modulus, 1 mm/min	8500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	154	MPa	ISO 178
Flexural Modulus, 2 mm/min	7750	MPa	ISO 178
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	640	J/m	ASTM D4812
Izod Impact, notched, 23°C	170	J/m	ASTM D256
Izod Impact, notched, -30°C	112	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	5	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Total Energy, 23°C	17	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL <sup>(1)</sup></b>			
Vicat Softening Temp, Rate B/50	153	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	163	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	204	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	149	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	1.1E-04	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	1.1E-04	1/°C	ISO 11359-2
CTE, 60°C to 138°C, flow	1.98E-05	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	148	°C	ISO 306
Vicat Softening Temp, Rate B/120	150	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	155	°C	ISO 75/Af
Relative Temp Index, Elec <sup>(2)</sup>	140	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	130	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	140	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.44	-	ASTM D792
Specific Volume	0.7	cm <sup>3</sup> /g	ASTM D792
Water Absorption, (23°C/24hrs)	0.09	%	ASTM D570
Mold Shrinkage, flow, 0.75-2.3 mm <sup>(3)</sup>	0.3 – 0.4	%	SABIC method
Mold Shrinkage, flow, 2.3-4.6 mm <sup>(3)</sup>	0.4 – 0.5	%	SABIC method
Mold Shrinkage, xflow, 0.75-2.3 mm <sup>(3)</sup>	0.4 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 2.3-4.6 mm <sup>(3)</sup>	0.7 – 0.9	%	SABIC method
Melt Flow Rate, 250°C/5.0 kgf	24	g/10 min	ASTM D1238
Density	1.44	g/cm <sup>3</sup>	ASTM D792
Water Absorption, (23°C/saturated)	0.5	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	12	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	19	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL <sup>(1)</sup></b>			
Volume Resistivity	4.8E+15	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	20	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	27	kV/mm	IEC 60243-1
Relative Permittivity, 100 Hz	4	-	ASTM D150
Relative Permittivity, 1 MHz	4	-	ASTM D150
Dissipation Factor, 100 Hz	0.003	-	ASTM D150
Dissipation Factor, 1 MHz	0.02	-	ASTM D150
Hot-Wire Ignition (HWI), PLC 1	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥1.5	mm	UL 746A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="#">E121562-103956403</a>	-	-
UL Yellow Card Link 2	<a href="#">E207780-103938404</a>	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	110	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 280	°C	
Nozzle Temperature	255 – 275	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	255 – 275	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Mold Temperature	65 – 95	°C	
Back Pressure	0.3 – 0.3	MPa	
Screw Speed	50 – 50	rpm	
Shot to Cylinder Size	50 – 80	%	
Vent Depth	0.013 – 0.02	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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
- (3) 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.
- (4) 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.

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