

# LNPT<sup>TM</sup> THERMOCOMP<sup>TM</sup> COMPOUND D45 1

## DESCRIPTION

LNP THERMOCOMP D451 compound is based on Polycarbonate (PC) resin containing 40% glass fiber. Added features of this grade include: High Modulus, Low Warpage, Good Ductility, Non-Brominated & Non-Chlorinated Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Low Warpage, Non Cl/Br flame retardant, High stiffness/Strength, Impact resistant
Fillers	Glass Fiber
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

  

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

## TYPICAL PROPERTY VALUES

Revision 20241021

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, brk, Type I, 5 mm/min	143	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.3	%	ASTM D638
Tensile Modulus, 5 mm/min	11720	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	186	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	9750	MPa	ASTM D790
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	521	J/m	ASTM D4812
Izod Impact, notched, 23°C	140	J/m	ASTM D256
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	33	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL <sup>(1)</sup></b>			
HDT, 1.82 MPa, 3.2mm, unannealed	114	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.54E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.63E-05	1/°C	ASTM E831
Relative Temp Index, Elec <sup>(2)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	80	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
Density	1.52	g/cm <sup>3</sup>	ASTM D792
Mold Shrinkage, flow, 24 hrs <sup>(3)</sup>	0.1 – 0.25	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs <sup>(3)</sup>	0.1 – 0.25	%	ASTM D955

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 300°C/2.16 kgf	17.9	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/5.0 kgf	57	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/5.0 kg	42	cm <sup>3</sup> /10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/2.16 kg	14	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="https://www.ul.com/yellow-card-link">E207780-101265025</a>	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥0.6	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	110	°C	
Drying Time	3 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	285 – 310	°C	
Nozzle Temperature	285 – 305	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.1 – 0.3	MPa	
Screw Speed	50 – 90	rpm	

(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.

## MORE INFORMATION

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

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