

LNPT[™] THERMOCOMP[™] COMPOUND D451

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

Building and Construction
Consumer
Electrical and Electronics
Industrial

SUB INDUSTRY

Building Component
Personal Accessory
Mobile Phone - Computer - Tablets
Electrical

TYPICAL PROPERTY VALUES

Revision 20230607

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
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
IMPACT ⁽¹⁾			
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 ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	33	kJ/m ²	ISO 179/1eU
THERMAL ⁽¹⁾			
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 ⁽²⁾	80	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	80	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	80	°C	UL 746B
PHYSICAL ⁽¹⁾			
Density	1.52	g/cm ³	ASTM D792
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.1 – 0.25	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.1 – 0.25	%	ASTM D955

© 2023 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS[™]

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 ³ / 10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/2.16 kg	14	cm ³ / 10 min	ISO 1133
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E207780-101265025	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥0.6	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
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>

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.