LNP™ THERMOCOMP™ COMPOUND D151

DESCRIPTION

LNP THERMOCOMP D151 compound is based on Polycarbonate (PC) resin containing 10% glass fiber. Added features of this grade include: High Modulus, Good Surface, 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 20260722

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	83	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.6	%	ASTM D638
Tensile Modulus, 5 mm/min	4400	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	131	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4070	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	82	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.6	%	ISO 527
Tensile Modulus, 1 mm/min	4430	MPa	ISO 527
Flexural Stress, break, 2 mm/min	133	MPa	ISO 178
Flexural Modulus, 2 mm/min	4010	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 +23°C	12	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	45	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	53	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 +23°C	47	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	50	kJ/m²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	55	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	63	kJ/m²	ISO 179/1eU

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	58	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	14	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m²	ISO 179/1eA
Izod Impact, notched, 23°C	140	J/m	ASTM D256
Izod Impact, unnotched, 23°C	705	J/m	ASTM D4812
Instrumented Dart Impact Energy @ peak, 23°C	22	J	ASTM D3763
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	117	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	121	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
Vicat Softening Temp, Rate A/50	131	°C	ISO 306
Vicat Softening Temp, Rate B/50	124	°C	ISO 306
Vicat Softening Temp, Rate B/120	125	°C	ISO 306
CTE, 23°C to 80°C, flow	3.4E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.7E-05	1/°C	ISO 11359-2
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	1.27	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.3 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.3 – 0.5	%	ASTM D955
Melt Flow Rate			
300°C/1.2 kgf	13	g/10 min	ASTM D1238
300°C/2.16 kgf	27.5	g/10 min	ASTM D1238
Water Absorption, (23°C/saturated)	0.08	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate			
300°C/1.2 kg	12	cm³/10 min	ISO 1133
300°C/2.16 kg	25	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Hot-Wire Ignition (HWI), PLC 0	≥0.6	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.6	mm	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
Comparative Tracking Index	200	V	IEC 60112
Volume Resistivity	1.E16 – 1.E17	Ω.cm	IEC 62631-3-1
Dielectric Strength, in oil, 1.0 mm	37	kV/mm	IEC 60243-1
Dielectric Constant			
1.1 GHz	3.07	-	SABIC method
1.9 GHz	3.06	-	SABIC method
5 GHz	3.06	-	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
10 GHz	3.05	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0067	-	SABIC method
1.9 GHz	0.0065	-	SABIC method
5 GHz	0.0069	-	SABIC method
10 GHz	0.0069	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-102149172	-	-
Glow Wire Flammability Index			
0.6 mm	960	°C	IEC 60695-2-12
1.5 mm	960	°C	IEC 60695-2-12
3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.6 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	850	°C	IEC 60695-2-13
UL Recognized, 94V-2 Flame Class Rating	≥0.3	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥0.4	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.5	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

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