LNP™ THERMOCOMP™ Compound D251RC

DESCRIPTION

LNP THERMOCOMP D251RC compound is based on recycled Polycarbonate (PC) resin containing 20% glass fiber. Added features of this grade include: High Modulus, Low Warpage, Good Ductility, Non-Brominated & Non-Chlorinated Flame Retardant. Post-Consumer Recycling (PCR) Polycarbonate content up to 35%.

GENERAL INFORMATION	
Features	Flame Retardant, Low Warpage, Mechanical Recycling, 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 20260409

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Flexural Modulus, 1.3 mm/min, 50 mm span	6050	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	161	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	158	MPa	ASTM D790
Flexural Modulus, 2 mm/min	6150	MPa	ISO 178
Flexural Stress, yield, 2 mm/min	161	MPa	ISO 178
Flexural Stress, break, 2 mm/min	160	MPa	ISO 178
Tensile Modulus, 5 mm/min	6700	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	109	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.6	%	ASTM D638
Tensile Modulus, 1 mm/min	6650	MPa	ISO 527
Tensile Stress, break, 5 mm/min	107	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.6	%	ISO 527
IMPACT [1]			
Izod Impact, notched, 23°C	140	J/m	ASTM D256
Izod Impact, notched, -30°C	90	J/m	ASTM D256
Izod Impact, unnotched, 23°C	680	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	41	kJ/m²	ISO 180/1U
Instrumented Dart Impact Total Energy, 23°C	22	J	ASTM D3763

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	120	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	116	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	121	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	122	°C	ISO 306
Vicat Softening Temp, Rate B/120	125	°C	ISO 306
CTE, 23°C to 80°C, flow	2.6E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, xflow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.3E-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	1.35	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.2 – 0.4	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.2 – 0.4	%	ASTM D955
Water Absorption, (23°C/24hrs)	0.03	%	ISO 62-1
Melt Flow Rate			
300°C/2.16 kgf	25	g/10 min	ASTM D1238
300°C/1.2 kgf	12	g/10 min	ASTM D1238
Melt Volume Rate			
300°C/2.16 kg	21	cm³/10 min	ISO 1133
300°C/1.2 kg	10	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Volume Resistivity	>1.0E+16	Ω.cm	ASTM D257
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Surface Resistivity	1.0E+16	Ω	ASTM D257
Dielectric Constant			
1.1 GHz	3.25	-	SABIC method
1.9 GHz	3.26	-	SABIC method
5 GHz	3.26	-	SABIC method
10 GHz	3.26	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0068	-	SABIC method
1.9 GHz	0.0069	-	SABIC method
5 GHz	0.0071	-	SABIC method
10 GHz	0.0073	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103127360	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.6	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥0.5	mm	UL 94
Glow Wire Ignitability Temperature, 2.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Glow Wire Ignitability Temperature, 1.6 mm	850	°C	IEC 60695-2-13
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.6 mm	960	°C	IEC 60695-2-12
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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