LNP™ THERMOCOMP™ COMPOUND D10001VI

DESCRIPTION

LNP THERMOCOMP D10001VI is based on Polycarbonate (PC) resin. It is colorable, non Chlorinated and non Brominated, UL94 V0@0.8mm LDS compound for antenna or electric circuit manufacturing. Added features of this material include good process-ability, high impact strength, robust flame retardant for thin-wall design, good color-ability.

GENERAL INFORMATION	
Features	Thin Wall, Laser Direct Structuring, Aesthetics/Visual effects, Non Cl/Br flame retardant
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets, Wireless Communication

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	50	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	70	%	ASTM D638
Tensile Modulus, 5 mm/min	2550	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2550	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	40	MPa	ISO 527
Tensile Strain, break, 5 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Strength, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	650	J/m	ASTM D256
Izod Impact, unnotched, 23°C	2150	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	130	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	15	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	95	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	117	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	105	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	116	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	104	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	6.2E-05	1/°C	ASTM E831

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	7.0E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	6.4E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.2E-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]			
Specific Gravity	1.3	-	ASTM D792
Density	1.3	g/cm³	ASTM D792
Melt Volume Rate, MVR at 260°C/5.0 kg	20	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 280°C/2.16 kg	16	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/1.2 kg	25	cm³/10 min	ISO 1133
Mold Shrinkage, flow [3]	0.5 – 0.8	%	SABIC method
Mold Shrinkage, xflow [3]	0.5 – 0.8	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant, 1.1 GHz	3.0	-	SABIC method
Dissipation Factor, 1.1 GHz	0.007	-	SABIC method
Dielectric Constant, 1.9 GHz	2.9	-	SABIC method
Dissipation Factor, 1.9 GHz	0.006	-	SABIC method
Dielectric Constant, 5 GHz	2.9	-	SABIC method
Dissipation Factor, 5 GHz	0.007	-	SABIC method
Dielectric Constant, 10 GHz	2.9	-	SABIC method
Dissipation Factor, 10 GHz	0.006	-	SABIC method
Dielectric Constant, 20 GHz	2.8	-	SABIC method
Dissipation Factor, 20 GHz	0.007	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103685620	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	4	Hrs	
Melt Temperature	270 – 290	°C	
Nozzle Temperature	265 – 290	°C	
Front - Zone 3 Temperature	265 – 290	°C	
Middle - Zone 2 Temperature	265 – 290	°C	
Rear - Zone 1 Temperature	265 – 290	°C	
Mold Temperature	100 – 130	°C	

(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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