LNP™ THERMOCOMP™ COMPOUND DX14354X

DESCRIPTION

LNP THERMOCOMP DX14354X compound is based on Polycarbonate (PC) resin containing proprietary fillers. Added features of this grade include: Improved Plating Surface and Mechanical Performance targeted for Laser Direct Structuring (LDS) applications, Improved Flow, Superior Impact, Colorable, Non-Brominated, Non-Chlorinated Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, High Flow, Dielectrics, Laser Direct Structuring, Aesthetics/Visual effects, Non Cl/Br flame retardant, Impact resistant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
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]			
Tensile Stress, yld, Type I, 50 mm/min	54	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	49	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	70	%	ASTM D638
Tensile Modulus, 50 mm/min	2500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	85	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	83	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	54	MPa	ISO 527
Tensile Stress, break, 50 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	80	%	ISO 527
Tensile Modulus, 1 mm/min	2460	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	86	MPa	ISO 178
Flexural Modulus, 2 mm/min	2560	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	750	J/m	ASTM D256
Izod Impact, notched 80*10*3 +23°C	60	kJ/m²	ISO 180/1A
THERMAL [1]			
Vicat Softening Temp, Rate A/50	128	°C	ASTM D1525

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	128	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	111	°C	ASTM D648
CTE, -40°C to 40°C, flow	5.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E831
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	113	°C	ISO 75/Af
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	1.29	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.5 – 0.7	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.5 – 0.7	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate			
260°C/5.0 kg	25	cm³/10 min	ISO 1133
280°C/2.16 kg	27	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Volume Resistivity	1.2E+16	Ω.cm	ASTM D257
Surface Resistivity	1.2E+16	Ω	ASTM D257
Relative Permittivity, 1 GHz	3.1	-	ASTM D150
Dielectric Constant			
1.1 GHz	3.06	-	SABIC method
1.9 GHz	3.08	-	SABIC method
5 GHz	3.08	-	SABIC method
Dissipation Factor			
1 GHz	0.006	-	ASTM D150
1.1 GHz	0.0063	-	SABIC method
1.9 GHz	0.0061	-	SABIC method
5 GHz	0.0059	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-102180157	-	-
UL Recognized, 94V-1 Flame Class Rating	≥1	mm	UL 94
AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III [1]			
Tensile Strain, brk, Type I, 50 mm/min	70	%	ASTM D638
AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV [1]			
Tensile Stress, brk, Type I, 50 mm/min	44	MPa	ASTM D638
INJECTION MOLDING [4]			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 270	°C	
Nozzle Temperature	240 – 260	°C	
Front - Zone 3 Temperature	245 – 265	°C	
Middle - Zone 2 Temperature	240 – 255	°C	
Rear - Zone 1 Temperature	230 – 245	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Hopper Temperature	40 – 60	°C	
Mold Temperature	40 – 100	°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.

MORE INFORMATION

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

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