

LNPT[™] THERMOCOMP[™] COMPOUND DX1 1354X

DESCRIPTION

LNP THERMOCOMP DX1 1354X 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 Impact, Colorable.

GENERAL INFORMATION

Features	Dielectrics, Laser Direct Structuring, Impact resistant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY

Automotive
Consumer
Electrical and Electronics
Industrial

SUB INDUSTRY

Automotive Interiors
Personal Accessory
Mobile Phone - Computer - Tablets
Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	45	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	2400	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	86	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2380	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	54	MPa	ISO 527
Tensile Stress, break, 50 mm/min	51	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	84	%	ISO 527
Tensile Modulus, 1 mm/min	2320	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	86	MPa	ISO 178
Flexural Modulus, 2 mm/min	2450	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	700	J/m	ASTM D256
Izod Impact, notched 80°10°3 +23°C	60	kJ/m ²	ISO 180/1A
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate A/50	136	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	121	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.5E-05	1/°C	ASTM E831

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CHEMISTRY THAT MATTERS[™]

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	7.1E-05	1 / °C	ASTM E831
Vicat Softening Temp, Rate B/50	136	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	117	°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⁾			
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.5 – 0.7	%	ISO 294
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.5 – 0.7	%	ISO 294
Density	1.28	g/cm ³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	20	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽¹⁾			
Volume Resistivity	1.E+16	Ω.cm	ASTM D257
Surface Resistivity	1.E+16	Ω	ASTM D257
Relative Permittivity, 1 GHz	3.03	-	ASTM D150
Dissipation Factor, 1 GHz	0.0066	-	ASTM D150
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E207780-101474809	-	-
UL Recognized, 94HB Flame Class Rating	≥1	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 280	°C	
Nozzle Temperature	255 – 275	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	245 – 265	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	80 – 140	°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.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.



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