LNP™ ELCRIN™ DX11355RC

DESCRIPTION

LNP ELCRIN DX11355RC compound is based on recycled Polycarbonate (PC) resin containing proprietary additives and available in black color only. Added features of this grade include: Improved Plating Surface and Mechanical Performance targeted for Laser Direct Structuring (LDS) applications, Improved Impact, Non-Brominated, Non-Chlorinated Flame Retardant. Post-Consumer Recycling (PCR) Polycarbonate content up to 50%.

GENERAL INFORMATION	
Features	Laser Direct Structuring, Mechanical Recycling, Non Cl/Br flame retardant, Dimensional stability, Impact resistant
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory, Commercial Appliance
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets, Speaker - Earphone, Wireless Communication

TYPICAL PROPERTY VALUES

Revision 20260416

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	59	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	53	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	55	%	ASTM D638
Tensile Modulus, 50 mm/min	2680	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	91	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2480	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	58	MPa	ISO 527
Tensile Stress, break, 50 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.1	%	ISO 527
Tensile Strain, break, 50 mm/min	45	%	ISO 527
Tensile Modulus, 1 mm/min	2680	MPa	ISO 527
Flexural Strength, 2 mm/min	88	MPa	ISO 178
Flexural Modulus, 2 mm/min	2620	MPa	ISO 178
IMPACT [1]			
Izod Impact			
notched, 23°C	817	J/m	ASTM D257
unnotched, 23°C	NB	J/m	ASTM D4812
notched 80*10*3 +23°C	104	kJ/m²	ISO 180/1A
unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
notched 80*10*3 0°C	68	kJ/m²	ISO 180/1A
unnotched 80*10*3 0°C	NB	kJ/m²	ISO 180/1U

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
notched 80*10*3 -20°C	20	kJ/m²	ISO 180/1A
unnotched 80*10*3 -20°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	100	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	130	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	117	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.3E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.0E-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]			
Specific Gravity	1.27	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.11	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.04	%	ISO 62-4
Melt Volume Rate			
260°C/5.0 kg	8	cm³/10 min	ISO 1133
Mold Shrinkage, flow [3]	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow [3]	0.6 – 0.8	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	2.89	-	SABIC method
1.9 GHz	2.92	-	SABIC method
5 GHz	2.91	-	SABIC method
Dissipation Factor			
1.1 GHz	0.008	-	SABIC method
1.9 GHz	0.007	-	SABIC method
5 GHz	0.006	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104623820	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.7	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	100 – 110	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 315	°C	
Nozzle Temperature	280 – 315	°C	
Front - Zone 3 Temperature	270 – 310	°C	
Middle - Zone 2 Temperature	265 – 305	°C	
Rear - Zone 1 Temperature	260 – 290	°C	
Mold Temperature	60 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.25 – 0.76	mm	

(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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