LNP™ ELCRIN™ DX2321RC1G

ER016924

DESCRIPTION

LNP ELCRIN DX2321RC1G compound incorporates renewable feedstock through ISCC+ mass-balance certification and is based on post-consumer recycled (PCR) polycarbonate (PC) resin containing a total of up to 59% Recycled Content with 50% Post-Consumer Recycled Polycarbonate and 9% Pre-Consumer Recycled Glass Fiber. Added features of this grade include: high modulus, non-brominated and non-chlorinated flame retardant. Available in black color.

GENERAL INFORMATION	
Features	Mechanical Recycling, Bio-Renewable, Non Cl/Br flame retardant, High stiffness/Strength, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content)
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Personal Accessory
Electrical and Electronics	Electronic Components
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260908

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 5 mm/min	76	MPa	ISO 527
Tensile Stress, break, 5 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.1	%	ISO 527
Tensile Strain, break, 5 mm/min	4.4	%	ISO 527
Tensile Modulus, 1 mm/min	3900	MPa	ISO 527
Flexural Stress, break, 2 mm/min	128	MPa	ISO 178
Flexural Modulus, 2 mm/min	3900	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	78	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	77	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3.2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	4.9	%	ASTM D638
Tensile Modulus, 5 mm/min	4000	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	128	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4000	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	56	kJ/m²	ISO 180/1U

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 -30°C	48	kJ/m²	ISO 180/1U
Izod Impact, unnotched, 23°C	640	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	700	J/m	ASTM D4812
Izod Impact, notched, 23°C	100	J/m	ASTM D256
Izod Impact, notched, -30°C	60	J/m	ASTM D256
Instrumented Impact Total Energy, 23°C	21	J	ASTM D3763
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	53	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	123	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	126	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	128	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.90E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.90E-05	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.27	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	16	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/2.16 kg	29	cm³/10 min	ISO 1133
Specific Gravity	1.27	-	ASTM D792
Mold Shrinkage, flow [2]	0.3 – 0.6	%	SABIC method
Mold Shrinkage, xflow [2]	0.3 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	17	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/2.16 kgf	34	g/10 min	ASTM D1238
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.05	-	SABIC method
2.5 GHz	3.03	-	SABIC method
5 GHz	3.02	-	SABIC method
10 GHz	3.01	-	SABIC method
Dissipation Factor			
1.1 GHz	0.007	-	SABIC method
2.5 GHz	0.007	-	SABIC method
5 GHz	0.007	-	SABIC method
10 GHz	0.007	-	SABIC method
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E207780-10247713	-	-
UL Recognized, 94V-2 Flame Class Rating	≥0.6	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	110	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	3 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	285 – 310	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Nozzle Temperature	285 – 305	°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) 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.

(3) 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.

(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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