LNP™ ELCRIN™ DF0021RC1

(ER015715)

DESCRIPTION

LNP ELCRIN DF0021RC1 compound is based on recycled polycarbonate (PC) resin containing 10% pre-consumer recycled glass fiber. Added features of this grade include: high modulus, non-brominated and non-chlorinated flame retardant. Post-consumer recycled (PCR) polycarbonate content up to 50%. Total recycle content up to 60%. Available in black colors.

GENERAL INFORMATION	
Features	Structural, Flame Retardant, Non-Brominated, Non-Chlorinated, Mechanical Recycling
Fillers	Glass Fiber
Brands	LNP™ ELCRIN™
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Home Appliances, Commercial Appliance
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260907

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 5 mm/min	83	MPa	ISO 527
Tensile Stress, break, 5 mm/min	79	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.6	%	ISO 527
Tensile Strain, break, 5 mm/min	4.3	%	ISO 527
Tensile Modulus, 1 mm/min	4000	MPa	ISO 527
Flexural Stress, break, 2 mm/min	134	MPa	ISO 178
Flexural Modulus, 2 mm/min	4000	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	84	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	80	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3.7	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	4.6	%	ASTM D638
Tensile Modulus, 5 mm/min	4000	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	137	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	136	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3700	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	11	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	47	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	53	kJ/m²	ISO 180/1U

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched, 23°C	720	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	820	J/m	ASTM D4812
Izod Impact, notched, 23°C	100	J/m	ASTM D256
Izod Impact, notched, -30°C	80	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	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	54	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	121	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	123	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	126	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	116	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.0E-05	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.27	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	11	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/2.16 kg	23	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	14	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/2.16 kgf	26	g/10 min	ASTM D1238
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E207780-104592541	-	-
UL Recognized, 94V-1 Flame Class Rating	≥0.6	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
ELECTRICAL PROPERTIES [1]			
Dielectric Constant [1]			
1.1 GHz	3.04	-	SABIC method
2.5 GHz	3.02	-	SABIC method
5 GHz	3.03	-	SABIC method
10 GHz	3.04	-	SABIC method
Dissipation Factor [1]			
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
INJECTION MOLDING [4]			
Drying Temperature	110	°C	
Drying Time	3 – 6	Hrs	
Maximum Moisture Content	0.02	%	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Temperature	285 – 310	°C	
Nozzle Temperature	285 – 305	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Mold Temperature	80 – 110	°C	
Back pressure (Plastic 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 articles.

(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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