DX2381RC1

ER017027

DESCRIPTION

LNP ELCRIN DX2381RC1 compound is based on recycled polycarbonate (PC) resin containing a total of 75% recycled content with up to 35% post-consumer recycled (PCR) polycarbonate content and 40% pre-consumer recycled glass fiber content. Added features of this grade include: high modulus, non-brominated and non-chlorinated flame retardant. UL 94 V0 rating at 0.75 mm. Available in black color.

GENERAL INFORMATION	
Applications	Mobile Phone, Electrical Components & Infrastructure, Enclosure/Housing/Cover
Features	Mechanical Recycling, 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
Regional Availability	Global

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Electronic Components

TYPICAL PROPERTY VALUES

Revision 20260911

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break, 5 mm/min	130	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.8	%	ISO 527
Tensile Modulus, 1 mm/min	9900	MPa	ISO 527
Flexural Stress, break, 2 mm/min	196	MPa	ISO 178
Flexural Modulus, 2 mm/min	11400	MPa	ISO 178
Tensile Stress, brk, Type I, 5 mm/min	132	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.1	%	ASTM D638
Tensile Modulus, 5 mm/min	11800	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	190	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	11200	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	44	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	44	kJ/m²	ISO 180/1U
Izod Impact, unnotched, 23°C	530	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	670	J/m	ASTM D4812
Izod Impact, notched, 23°C	105	J/m	ASTM D256
Izod Impact, notched, -30°C	90	J/m	ASTM D256

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Impact Total Energy, 23°C	18	J	ASTM D3763
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	45	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	49	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	116	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	111	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	119	°C	ISO 306
Vicat Softening Temp, Rate B/120	121	°C	ISO 306
HDT, 0.45 MPa, 3.2 mm, unannealed	115	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	110	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.1E-05	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.53	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/2.16 kg	20	cm³/10 min	ISO 1133
Specific Gravity	1.54	-	ASTM D792
Mold Shrinkage, flow [2]	0.1 – 0.3	%	SABIC method
Mold Shrinkage, xflow [2]	0.2 – 0.4	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	13	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/2.16 kgf	27	g/10 min	ASTM D1238
ELECTRICAL [1]			
Dissipation Factor			
1.1 GHz	0.007	-	SABIC method
2.5 GHz	0.008	-	SABIC method
5 GHz	0.008	-	SABIC method
10 GHz	0.008	-	SABIC method
Dielectric Constant			
1.1 GHz	3.70	-	SABIC method
2.5 GHz	3.72	-	SABIC method
5 GHz	3.68	-	SABIC method
10 GHz	3.67	-	SABIC method
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E207780-104649227	-	-
UL Recognized, 94V-0 Flame Class Rating	0.75	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	0.6	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	110	°C	
Drying Time	3 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	285 – 310	°C	
Nozzle Temperature	285 – 305	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	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

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