LNP™ ELCRIN™ EXL8543RCC

DESCRIPTION

LNP ELCRIN EXL8543RCC is based on Polycarbonate (PC) siloxane copolymer resin. Added features of this grade include: Medium Flow, Colorable and 40% Post Consumer Recycle (PCR) content. This grade is targeted for applications that require improved aesthetics and wider color space to overcome restricted color space of traditional PCR grades.

GENERAL INFORMATION	
Features	Mechanical Recycling, Aesthetics/Visual effects, Impact resistant, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content)
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Recreational/Specialty Vehicles
Building and Construction	Building Component
Consumer	Personal Accessory, Home Appliances
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 50 mm/min	58	MPa	ISO 527
Tensile Stress, break, 50 mm/min	62	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6.2	%	ISO 527
Tensile Strain, break, 50 mm/min	132	%	ISO 527
Tensile Modulus, 1 mm/min	2130	MPa	ISO 527
Flexural Modulus, 2 mm/min	2280	MPa	ISO 178
Flexural Strength, 2 mm/min	91	MPa	ISO 178
Tensile Modulus, 50 mm/min	2070	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	63	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.4	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D638
Nominal Strain, brk, 50 mm/min	100	%	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	97	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	52	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	20	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	16	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 +23°C	237	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	59	kJ/m²	ISO 179/1eA
Charpy 0°C, V-notch Edgew 80*10*4 sp=62mm	23	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	18	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	330	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	770	J/m	ASTM D256
Izod Impact, notched, 0°C	600	J/m	ASTM D256
Izod Impact, notched, -30°C	190	J/m	ASTM D256
Izod Impact, unnotched, 23°C	2700	J/m	ASTM D4812
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	124	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	138	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	142	°C	ISO 306
Vicat Softening Temp, Rate B/120	144	°C	ISO 306
CTE, 23°C to 80°C, flow	6.6E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.2E-05	1/°C	ISO 11359-2
HDT, 1.82 MPa, 3.2mm, unannealed	126	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	139	°C	ASTM D648
Vicat Softening Temp, Rate B/120	144	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	142	°C	ASTM D1525
CTE, 23°C to 50°C, flow	6.6E-05	1/°C	ASTM E831
CTE, 23°C to 50°C, xflow	7.2E-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]			
Density	1.23	g/cm³	ISO 1183
Water Absorption, (23°C/24hrs)	0.15	%	ISO 62-1
Mold Shrinkage, flow [3]	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow [3]	0.4 – 0.8	%	SABIC method
Melt Volume Rate, MVR at 300°C/1.2 kg	16	cm³/10 min	ISO 1133
Specific Gravity	1.19	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.14	%	ASTM D570
Melt Flow Rate, 300°C/1.2 kgf	17	g/10 min	ASTM D1238
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104400894	-	-
UL Recognized, 94HB Flame Class Rating	≥0.47	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Front - Zone 3 Temperature	295 – 315	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Nozzle Temperature	290 – 310	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	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) 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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