LNP™ ELCRIN™ EXL9482RC

DESCRIPTION

LNP™ ELCRIN™ Compound EXL9482RC resin (also known as ELCRIN ER015586) is a medium flow, unfilled, non-brominated, non-chlorinated flame retardant, Polycarbonate (PC) siloxane copolymer, dark colors only, utilizing a minimum of 72% post-consumer recycle content. Added features of this material include: UL V-0 rating at 1.5 mm thickness.

GENERAL INFORMATION	
Features	Flame Retardant, Amorphous, Mechanical Recycling, Non Cl/Br flame retardant
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Home Appliances
Electrical and Electronics	Electrical Devices and Displays

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	59	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.8	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	150	%	ASTM D638
Nominal Strain, brk, 50 mm/min	90	%	ASTM D638
Tensile Modulus, 50 mm/min	2170	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	59.5	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.8	%	ISO 527
Tensile Strain, break, 50 mm/min	150	%	ISO 527
Tensile Modulus, 1 mm/min	2170	MPa	ISO 527
Flexural Modulus, 2 mm/min	2270	MPa	ISO 178
Flexural Stress, yield, 2 mm/min	92	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	800	J/m	ASTM D256
Izod Impact, notched, 0°C	660	J/m	ASTM D256
Izod Impact, notched, -20°C	470	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	228	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	53	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	24.7	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 -20°C	16.1	kJ/m²	ISO 180/1A
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	300	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	61	kJ/m²	ISO 179/1eA
Charpy 0°C, V-notch Edgew 80*10*3 sp=62mm	26	kJ/m²	ISO 179/1eA
Instrumented Dart Impact Total Energy, 23°C	65	J	ASTM D3763
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	128	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	114.5	°C	ISO 75/Af
HDT, 0.45 MPa, 3.2 mm, unannealed	128	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
Vicat Softening Temp, Rate B/50	132	°C	ISO 306
Vicat Softening Temp, Rate B/120	134	°C	ISO 306
Vicat Softening Temp, Rate B/50	132	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	134	°C	ASTM D1525
CTE, -40°C to 40°C, flow	6.7E-5	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7E-5	1/°C	ISO 11359-2
Relative Temp Index, Elec	80	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	80	°C	UL 746B
PHYSICAL [1]			
Mold Shrinkage, flow [2]	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow [2]	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	12	g/10 min	ASTM D1238
Specific Gravity	1.2	-	ASTM D792
ELECTRICAL			
Dielectric Constant			
500 MHz	2.91	-	SABIC method
1 GHz	2.9	-	SABIC method
2.5 GHz	2.86	-	SABIC method
5 GHz	2.85	-	SABIC method
10 GHz	2.85	-	SABIC method
Dissipation Factor			
500 MHz	0.02	-	SABIC method
1 GHz	0.009	-	SABIC method
2.5 GHz	0.015	-	SABIC method
5 GHz	0.015	-	SABIC method
10 GHz	0.003	-	SABIC method
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E207780-104562436	-	-
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
INJECTION MOLDING [4]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Temperature	120 – 120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	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	
Nozzle Temperature	290 – 310	°C	
Mold Temperature	70 – 110	°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) 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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