

LNPTM ELCRINTM EXL1 1 1 2AG

DESCRIPTION

LNP ELCRIN EXL1 1 1 2AG is based on Polycarbonate (PC) siloxane copolymer and is a high flow opaque injection molding (IM) grade that incorporates renewable feedstock through ISCC+ mass-balance certification. This resin offers good low temperature (-20°C) ductility in combination with excellent processability and mold release, providing opportunities for shorter IM cycle time comparing to standard PC. ELCRIN EXL1 1 1 2AG resin is available in wide range of opaque colors and is targeted for a variety of applications.

GENERAL INFORMATION	
Features	Bio-Renewable, Impact resistant, Low temperature impact, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Lighting, Recreational/Specialty Vehicles
Building and Construction	Water Management
Consumer	Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical, Defense

TYPICAL PROPERTY VALUES

Revision 20260807

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	57	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	117	%	ASTM D638
Tensile Modulus, 50 mm/min	2128	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	91	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2170	MPa	ASTM D790
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	724	J/m	ASTM D256
Izod Impact, notched, -30°C	518	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	62	J	ASTM D3763
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	62	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	30	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate B/50	141	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	137	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	123	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	7.0E-05	1 / °C	ASTM E831
CTE, -40°C to 40°C, xflow	7.2E-05	1 / °C	ASTM E831
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	143	°C	ISO 306
PHYSICAL ⁽¹⁾			
Specific Gravity	1.23	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm ⁽²⁾	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	17	g/10 min	ASTM D1238
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
FLAME CHARACTERISTICS ⁽³⁾			
UL Yellow Card Link	E121562-10234778	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.8 mm	875	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 0.8 mm	850	°C	IEC 60695-2-12
UV-light, water exposure/immersion	F1	-	UL 746C
Oxygen Index (LOI)	32	%	ISO 4589
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(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. 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.

(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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