

# LNPT<sup>™</sup> ELCREST<sup>™</sup> CXL1313T

## DESCRIPTION

LNP ELCRES CXL1313T is an amorphous PC copolymer resin that offers excellent chemical resistance in combination with excellent impact strength and good optical properties (thin wall transparency). This medium flow resin features transparency to translucency based on thickness and low temperature ductility (-30C). It is intended for a wide variety of transparent and translucent applications that require improved chemical resistance and ductility for electronics, consumer and industrial applications.

GENERAL INFORMATION	
Features	Chemical Resistance, Thin Wall, Amorphous, IR Transparent, Transparent/Translucent, High temperature resistance, Impact resistant, Low temperature impact, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding
INDUSTRY	SUB INDUSTRY
Consumer	Consumer Goods, Sport/Leisure, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Industrial General

## TYPICAL PROPERTY VALUES

Revision 20240619

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Modulus, 50 mm/min	2150	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	124	%	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.5	%	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	59	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2250	MPa	ASTM D790
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	910	J/m	ASTM D256
Izod Impact, notched, -30°C	700	J/m	ASTM D256
<b>THERMAL <sup>(1)</sup></b>			
HDT, 1.82 MPa, 3.2mm, unannealed	129	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	142	°C	ASTM D648
Vicat Softening Temp, Rate B/120	148	°C	ISO 306
Relative Temp Index, Elec <sup>(2)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	80	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.19	-	ASTM D792
Density	1.19	g/cm <sup>3</sup>	ISO 1183

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 300°C/2.16 kgf	11	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/2.16 kg	10	cm <sup>3</sup> /10 min	ASTM D1238
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Water Absorption, (23°C/24hrs)	0.2	%	ISO 62-1
Mold Shrinkage, flow <sup>(3)</sup>	0.5 – 0.9	%	SABIC method
Mold Shrinkage, xflow <sup>(3)</sup>	0.5 – 0.9	%	SABIC method
<b>OPTICAL</b>			
Light Transmission, 1.0 mm	89	%	ASTM D1003
Haze, 1.0 mm	2	%	ASTM D1003
<b>FLAME CHARACTERISTICS<sup>(2)</sup></b>			
UL Yellow Card Link	<u>E121562-104690930</u>	-	-
UL Yellow Card Link 2	<u>E207780-104690931</u>	-	-
UL Recognized, 94HB Flame Class Rating	≥0.75	mm	UL 94
<b>INJECTION MOLDING<sup>(4)</sup></b>			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 340	°C	
Rear - Zone 1 Temperature	270 – 320	°C	
Middle - Zone 2 Temperature	280 – 330	°C	
Front - Zone 3 Temperature	290 – 340	°C	
Nozzle Temperature	290 – 340	°C	
Mold Temperature	80 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 80	%	
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) 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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