

# LNPT<sup>™</sup> ELCREST<sup>™</sup> CRX9421U

## DESCRIPTION

LNP ELCRES CRX9421U is a UV stabilized semi-crystalline Polycarbonate (PC) copolymer/Polybutylene Terephthalate (PBT) opaque blend. This grade offers medium flow, UL V0 rating @ 1.5 mm, and high ductility in combination with excellent chemical resistance. CRX9421U is available for custom coloring and is intended for a wide variety of healthcare applications that need improved chemical resistance.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Impact resistant, Weatherable/UV stable
Fillers	Unreinforced
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Hygiene and Healthcare	General Healthcare

## TYPICAL PROPERTY VALUES

Revision 20240508

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yield, 50 mm/min	45	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	100	%	ISO 527
Tensile Modulus, 1 mm/min	2040	MPa	ISO 527
Flexural Modulus, 2 mm/min	2050	MPa	ISO 178
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Tensile Modulus, 50 mm/min	1984	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	59	%	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	36	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	44	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	1985	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	72	MPa	ASTM D790
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched 80*10*4 +23°C	55	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	25	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	13	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	255	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	220	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched, 23°C	590	J/m	ASTM D256
Izod Impact, notched, 0°C	230	J/m	ASTM D256
Izod Impact, notched, -30°C	150	J/m	ASTM D256

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D4812
Instrumented Dart Impact Total Energy, 23°C	54	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, 23°C	35	J	ASTM D3763
<b>THERMAL <sup>(1)</sup></b>			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	70	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Bf
HDT, 1.82 MPa, 3.2mm, unannealed	66	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	118	°C	ASTM D648
Vicat Softening Temp, Rate B/50	131	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	132	°C	ASTM D1525
CTE, -40°C to 40°C, flow	8.50E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	1.05E-04	1/°C	ASTM E831
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.3	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.1	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Density	1.3	g/cm <sup>3</sup>	ISO 1183
Mold Shrinkage, flow <sup>(2)</sup>	1.3 – 1.6	%	SABIC method
Mold Shrinkage, xflow <sup>(2)</sup>	1.3 – 1.5	%	SABIC method
Melt Volume Rate, MVR at 250°C/5 kg	10	cm <sup>3</sup> /10 min	ASTM D1238
Melt Flow Rate, 250°C/5.0 kgf	12	g/10 min	ASTM D1238
<b>FLAME CHARACTERISTICS <sup>(3)</sup></b>			
UL Yellow Card Link	<a href="https://www.ul.com/Products/Plastics/Engineering-Plastics/UL-94-Flame-Rated-Plastics/UL-94-Flame-Rated-Plastics-Link">E121562-104591350</a>	-	-
UL Recognized, 94V-0 Flame Class Rating <sup>(3)</sup>	≥1.5	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	240 – 255	°C	
Rear - Zone 1 Temperature	225 – 240	°C	
Middle - Zone 2 Temperature	230 – 245	°C	
Front - Zone 3 Temperature	235 – 250	°C	
Nozzle Temperature	240 – 255	°C	
Mold Temperature	50 – 70	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.025 – 0.038	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

(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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