

# LNPTM ELCREST™ DMX1435D

## DESCRIPTION

LNP ELCRES DMX1435D is a UV stabilized standard flow Polycarbonate (PC) copolymer resin with diffusion effect and improved scratch resistance. This grade is a good candidate for consumer electronics, mobility interiors and other adjacent applications, which need lower scratch and diffusive effects performance.

GENERAL INFORMATION	
Features	IR Transparent, Scratch Resistance, Aesthetics/Visual effects, Transparent/Translucent, Weatherable/UV stable, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

  

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors, Bus, Automotive Exteriors
Building and Construction	Building Component
Consumer	Personal Recreation
Electrical and Electronics	Mobile Phone - Computer - Tablets, Lighting
Industrial	Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL <sup>(1)</sup>			
Tensile Stress, yld, Type I, 50 mm/min	77	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7.5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	20	%	ASTM D638
Tensile Modulus, 50 mm/min	2700	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	120	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D790
Hardness, Rockwell L	110	-	ASTM D785
Hardness, Rockwell M	90	-	ASTM D785
Tensile Stress, yield, 50 mm/min	77	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	20	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	110	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
Pencil Hardness test, 1kgf	H	-	ASTM D3363
IMPACT <sup>(1)</sup>			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched, 23°C	30	J/m	ASTM D256
Izod Impact, notched, -30°C	30	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	7	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	40	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	2.2	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	2.0	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	2.2	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	2.5	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	46	kJ/m <sup>2</sup>	ISO 179/1eU
THERMAL <sup>(1)</sup>			
Vicat Softening Temp, Rate B/50	138	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	129	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
CTE, -40°C to 95°C, flow	7E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	7E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	7E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	136	°C	ISO 306
Vicat Softening Temp, Rate B/120	138	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	129	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
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
PHYSICAL <sup>(1)</sup>			
Specific Gravity	1.18	-	ASTM D792
Specific Volume	0.85	cm <sup>3</sup> /g	ASTM D792
Density	1.17	g/cm <sup>3</sup>	ASTM D792
Water Absorption, (23°C/24hrs)	0.08	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.28	%	ASTM D570
Moisture Absorption, (50% RH, Equilibrium)	0.13	%	ASTM D570
Moisture Absorption, (23°C/50% RH/24 hrs)	0.04	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	15.4	g/10 min	ASTM D1238
Density	1.18	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.27	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	14	cm <sup>3</sup> /10 min	ISO 1133
OPTICAL <sup>(1)</sup>			
Light Transmission at 2.0 mm	85	%	ASTM D1003
Haze, 2mm	85	%	SABIC method
FLAME CHARACTERISTICS <sup>(2)</sup>			
UL Yellow Card Link	<a href="#">E207780-104234328</a>	-	-

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
UL Recognized, 94HB Flame Class Rating	≥0.6	mm	UL 94
<b>INJECTION MOLDING</b> <sup>(4)</sup>			
Drying Temperature	120	°C	
Drying Time	3 – 4	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	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	70 – 95	°C	

- (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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