LNP™ ELCRES™ NPCXL9030L

DESCRIPTION

LNP ELCRES NPCXL9030L is an unfilled, opaque, amorphous polycarbonate (PC) copolymer resin suitable for injection molding and extrusion. This non-chlorinated, non-brominated flame-retardant grade has a UL-94 V0 rating at 1.5 mm (all colors) and certified per UL746G - an outline of investigation for non-fluorine and non-PFAS containing materials. It offers excellent low temperature ductility (-60°C) and is UV stabilized providing additional weathering capability with a UL746C f1 rating. The grade has improved chemical resistance against a range of chemicals and is specifically tailored towards mobility and industrial applications that need chemical and mechanical durability.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Good Processability, Heat Stabilized, Amorphous, Non Cl/Br flame retardant, Enhanced mold release, High temperature resistance, Impact resistant, Weatherable/UV stable, UL 746G certified, No PFAS intentionally added
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

TYPICAL PROPERTY VALUES

Revision 20260817

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 50 mm/min	54	MPa	ISO 527
Tensile Stress, break, 50 mm/min	63	MPa	ISO 527
Tensile Strain, Yield			
50 mm/min	6	%	ISO 527
Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, Break			
50 mm/min	>100	%	ISO 527
Type I, 50 mm/min	>100	%	ASTM D638
Tensile Modulus			
1 mm/min	2000	MPa	ISO 527
50 mm/min	2050	MPa	ASTM D638
Flexural Stress, yield, 2 mm/min	78	MPa	ISO 178
Flexural Modulus, 2 mm/min	2050	MPa	ISO 178
Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D638
IMPACT [1]			
Izod impact, notched			
80*10*4 +23°C	62	kJ/m²	ISO 180/1A
80*10*4 0°C	63	kJ/m²	ISO 180/1A
80*10*4 -30°C	59	kJ/m²	ISO 180/1A
80*10*3 +23°C	65	kJ/m²	ISO 180/1A
80*10*3 -30°C	56	kJ/m²	ISO 180/1A
23°C	900	J/m	ASTM D256
-30°C	825	J/m	ASTM D256
-60°C	>500	J/m	ASTM D256
Izod Impact, Unnotched			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
80*10*4 +23°C	N.B.	kJ/m²	ISO 180/1U
80*10*4 -30°C	N.B.	kJ/m²	ISO 180/1U
80*10*3 +23°C	120	kJ/m²	ISO 180/1U
80*10*3 -30°C	140	kJ/m²	ISO 180/1U
23°C	N.B.	J/m	ASTM D4812
-30°C	N.B.	J/m	ASTM D4812
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	60	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	110	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	85	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	139	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	126	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/120	144	°C	ISO 306
Vicat Softening Temp, Rate A/50	153	°C	ISO 306
Vicat Softening Temp, Rate A/120	152	°C	ISO 306
Vicat Softening Temp, Rate B/50	144	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	144	°C	ASTM D1525
Vicat Softening Temp, Rate A/50	153	°C	ASTM D1525
Vicat Softening Temp, Rate A/120	152	°C	ASTM D1525
CTE, 23°C to 50°C, flow	7.7E-05	1/°C	ISO 11359-2
CTE, 23°C to 50°C, xflow	9.1E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	125	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	110	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	120	°C	UL 746B
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
PHYSICAL [1]			
Density	1.19	g/cm³	ISO 1183
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow [3]	0.5 – 0.9	%	SABIC method
Mold Shrinkage, xflow [3]	0.5 – 0.9	%	SABIC method
Melt Volume Rate, MVR at 300°C/2.16 kg	10	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	28	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS [2]			
UL 746G certificate	Certificate of Compliance	-	
UL Yellow Card Link	E45329-104697632	-	-
UL94 Flame Class Rating			
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	3.0	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Temperature	270 – 310	°C	
Nozzle Temperature	275 – 305	°C	
Front - Zone 3 Temperature	285 – 315	°C	
Middle - Zone 2 Temperature	275 – 305	°C	
Rear - Zone 1 Temperature	270 – 300	°C	
Mold Temperature	80 – 100	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	60 – 100	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) 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. 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.

(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.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is certified per UL746G - an outline of investigation for non-fluorine and non-PFAS containing materials. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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