LNP™ ELCRIN™ CX7240B

DESCRIPTION

LNP ELCRIN CX7240B Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable, medium flow, non chlorinated/brominated flame retardant grade with incorporation of renewable PC feedstock. It has a UL94 V0@0.75mm, 5VA@3.0mm and 5VB@1.5mm flame rating and contains around 48.3% renewable content. Renewable content certified by ISCC+ mass balance methodology. This grade has improved weld line strength and chemical resistance compared to standard PC/ABS blends and is a good candidate for thin wall applications. This grade also has good processability with opportunities for shorter injection molded cycle times compared to standard PC/ABS. ELCRIN CX7240B is a product available in wide range of opaque colors and is targeted for a variety of electronics applications such as mobile phones, tablets, audio equipment, gaming devices, thin wall industrial housings, and electric vehicle battery and energy storage equipment.

GENERAL INFORMATION	
Features	Chemical Resistance, Good Processability, Thin Wall, Amorphous, Bio-Renewable, Non Cl/Br flame retardant, Enhanced mold release, Dimensional stability, Impact resistant
Fillers	Unreinforced
Polymer Types	Polycarbonate + ABS (PC+ABS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Water Management, Construction
Consumer	Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure
Hydrocarbon and Energy	Electric Vehicle, Energy Storage
Hygiene and Healthcare	General Healthcare, Medical Facility Infrastructure
Industrial	Additive Manufacturing
Mass Transportation	Aircraft Interiors, Specialty Vehicles, Rail

TYPICAL PROPERTY VALUES

Revision 20250508

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.1	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D638
Tensile Modulus, 5 mm/min	2600	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	104	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	90	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Strength, 2 mm/min	96	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
IMPACT [1]			
Izod Impact, notched, 23°C	700	J/m	ASTM D256
Izod Impact, notched, -30°C	175	J/m	ASTM D256
Izod Impact, notched 80*10*3 +23°C	20	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	25	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	20	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	22	kJ/m²	ISO 179/1eA
Instrumented Dart Impact Total Energy, 23°C	65	J	ASTM D3763
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	100	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	89	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	99	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	93	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	110	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	110	°C	ISO 306
Vicat Softening Temp, Rate B/120	113	°C	ISO 306
Relative Temp Index, Elec [2]	90	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	90	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	90	°C	UL 746B
Ball Pressure Test, 75°C +/- 2°C	Pass	-	IEC 60695-10-2
Thermal Conductivity	0.2	W/m-°C	ISO 8302
PHYSICAL [1]			
Specific Gravity	1.19	-	ASTM D792
Density	1.2	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Water Absorption, (23°C/saturated)	0.2	%	ISO 62-1
Melt Flow Rate, 260°C/2.16 kgf	18	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 260°C/2.16 kg	15	cm³/10 min	ISO 1133
Mold Shrinkage, flow, 3.2 mm [3]	0.4 – 0.6	%	SABIC method
ELECTRICAL [1]			
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Comparative Tracking Index (UL) {PLC} [2]	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1 [2]	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3 [2]	≥0.75	mm	UL 746A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Amp Arc Ignition (HAI), PLC 0 [2]	≥0.75	mm	UL 746A
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link [2]	E207780-101674340	-	-
UL Yellow Card Link 2 [2]	E207780-474277	-	-
UL Recognized, 94-5VA Flame Class Rating [2]	≥3.0	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating [2]	≥1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating [2]	≥0.75	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating [2]	≥0.6	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating [2]	≥0.4	mm	UL 94
Glow Wire Flammability Index, 0.75 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index 960°C, passes at, by VDE	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.75 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.75 mm, by VDE	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm, by VDE	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm, by VDE	775	°C	IEC 60695-2-13
UV-light, water exposure/immersion [2]	f2	-	UL 746C
Oxygen Index (LOI)	34	%	ISO 4589
INJECTION MOLDING [4]			
Drying Temperature	80 – 90	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 300	°C	
Nozzle Temperature	250 – 300	°C	
Front - Zone 3 Temperature	250 – 300	°C	
Middle - Zone 2 Temperature	240 – 290	°C	
Rear - Zone 1 Temperature	230 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 85	°C	
Vent Depth	0.03 – 0.075	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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