LNP™ ELCRES™ EXL9334U

DESCRIPTION

LNP ELCRES EXL9334U is based on Polycarbonate (PC) siloxane copolymer resin with excellent UV resistance feature. It is UL94 V0 @ 1.5mm flame retardancy based on non-bromine, non-chlorine FR systems, medium flow opaque material suitable for injection molding (IM) and sheet extrusion applications. This grade also offers extreme low temperature ductility (-40°C) characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. It is available in a wide range of opaque colors and is targeted for a wide range of applications.

GENERAL INFORMATION	
Features	High Flow, Non Cl/Br flame retardant, Impact resistant, Low temperature impact, Weatherable/UV stable
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Sheet extrusion, Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Ophthalmics, Home Decoration, Home Appliances
Electrical and Electronics	Energy Management, Mobile Phone - Computer - Tablets, Wireless Communication
Hydrocarbon and Energy	Energy Storage
Industrial	Electrical, Material Handling, Industrial General
Mass Transportation	Rail

TYPICAL PROPERTY VALUES

Revision 20250428

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	51	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	65	%	ASTM D638
Tensile Modulus, 50 mm/min	2214	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	89	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2230	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	59	MPa	ISO 527
Tensile Stress, break, 50 mm/min	53	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	82	%	ISO 527
Tensile Modulus, 1 mm/min	2000	MPa	ISO 527
Flexural Strength, 2 mm/min	88	MPa	ISO 178
Flexural Modulus, 2 mm/min	2182	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	914	J/m	ASTM D256
Izod Impact, notched, -40°C	626	J/m	ASTM D256
Izod Impact, notched 80*10*3 +23°C	74	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*3 -30°C	54	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	80	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	55	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Instrumented Dart Impact Total Energy, 23°C	65	J	ASTM D3763
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	125	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	112	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	125	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	111	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	6.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.5E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	7.8E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	136	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	136	°C	ISO 306
Relative Temp Index, Elec [2]	80	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	80	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.19	-	ASTM D792
Melt Flow Rate, 300°C/1.2 kgf	9.5	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/1.2 kg	9.6	cm³/10 min	ISO 1133
Mold Shrinkage, flow [3]	0.75	%	SABIC method
Mold Shrinkage, xflow [3]	0.81	%	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104579448	-	-
UL Recognized, 94-5VB Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UV-light, water exposure/immersion	f1	-	UL 746C
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	255 – 315	°C	
Nozzle Temperature	250 – 310	°C	
Front - Zone 3 Temperature	255 – 315	°C	
Middle - Zone 2 Temperature	245 – 305	°C	
Rear - Zone 1 Temperature	235 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Screw Speed	40 – 70	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.

(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.

DISCLAIMER