LNP™ ELCRES™ SLX2471MT

DESCRIPTION

LNP ELCRES SLX2471MT is an amorphous Polycarbonate (PC) copolymer resin. It is an injection moldable, weatherable product that offers enhanced UV stabilization. This medium flow (16 MVR) resin provides good processability with added mold release. This halogen-free flame retardant resin is EN45545 R4 HL3 and R27 HL3 compliant and an ideal candidate for transparent train applications.

GENERAL INFORMATION	
Features	IR Transparent, Transparent/Translucent, Non halogenated flame retardant, Weatherable/UV stable, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Mass Transportation	Rail

TYPICAL PROPERTY VALUES

Revision 20260205

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	64	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	74	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	>100	%	ASTM D638
Tensile Nominal Strain, brk, Type I, 50 mm/min	>100	%	ASTM D638
Tensile Modulus, 5 mm/min	2350	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2350	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	>100	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	96	MPa	ISO 178
Flexural Modulus, 2 mm/min	2350	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	840	J/m	ASTM D256
Izod Impact, notched, -30°C	100	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D4812
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	87	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	14	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	67	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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
THERMAL [1]			
Vicat Softening Temp, Rate B/50	135	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	136	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	130	°C	ASTM D648
CTE, 23°C to 60°C, flow	8.0E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, xflow	8.0E-05	1/°C	ASTM E831
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	135	°C	ISO 306
Vicat Softening Temp, Rate B/120	136	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	133	°C	ISO 75/Bf
CTE, 23°C to 60°C, flow	8.0E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	8.0E-05	1/°C	ISO 11359-2
PHYSICAL [1]			
Specific Gravity	1.21	-	ASTM D792
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D1238
Density	1.21	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm³/10 min	ISO 1133
Water Absorption, (23°C/saturated)	0.3 – 0.4	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.1 – 0.2	%	ISO 62-4
Mold Shrinkage, xflow	0.5 – 0.6	%	SABIC method
Mold Shrinkage, flow	0.6 – 0.7	%	SABIC method
OPTICAL [1]			
Light Transmission, 2.54 mm	88	%	ASTM D1003
Haze, 2.54 mm	0.8	%	ASTM D1003
INJECTION MOLDING [2]			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	275 – 295	°C	
Front - Zone 3 Temperature	280 – 310	°C	
Middle - Zone 2 Temperature	265 – 290	°C	
Rear - Zone 1 Temperature	255 – 280	°C	
Mold Temperature	70 – 100	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 60	rpm	
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) 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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