LNP™ ELCRES™ SLX1291TIB

DESCRIPTION

LNP ELCRES SLX1291TIB is based on Polycarbonate (PC) copolymer resin. It is an injection moldable, weatherable product that offers enhanced UV stabilization, impact durability and can reduce "interior" heat build up in the article or part by selectively blocking the near infra-red region of the sunlight. This medium flow (19 MFR) resin provides good processability with added mold release. SLX1291TIB is targeted for a broad range of electrical components in the Building and Construction, Industrial, Infrastructure, Medical Facility Infrastructure and Energy storage applications.

GENERAL INFORMATION	
Features	Good Processability, Aesthetics/Visual effects, Transparent/Translucent, Enhanced mold release, Impact resistant, Low temperature impact, Weatherable/UV stable, No PFAS intentionally added
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

TYPICAL PROPERTY VALUES

Revision 20250606

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 1 mm/min	2250	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.8	%	ISO 527
Tensile Strain, break, 50 mm/min	>100	%	ISO 527
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Flexural Strength, 2 mm/min	94	MPa	ISO 178
Tensile Modulus, 5 mm/min	2275	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.0	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	69	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*3 +23°C	60	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 0°C	45	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	15	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	69	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	17	kJ/m²	ISO 179/1eA
Multi-Axial Instrumented Impact Total Energy, 23°C	84	J	ISO 6603-2
Multi-Axial Instrumented Impact Total Energy, -30°C	64	J	ISO 6603-2
Izod Impact, notched, 23°C	800	J/m	ASTM D256
Izod Impact, notched, 0°C	605	J/m	ASTM D256
Izod Impact, notched, -30°C	170	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 +23°C	172	kJ/m²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	120	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	133	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	138	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
CTE, 23°C to 50°C, flow	6.8E-05	1/°C	ISO 11359-2
CTE, 23°C to 50°C, xflow	6.8E-05	1/°C	ISO 11359-2
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	132	°C	ASTM D648
Vicat Softening Temp, Rate B/50	138	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	140	°C	ASTM D1525
CTE, 23°C to 50°C, flow	6.8E-05	1/°C	ASTM E831
CTE, 23°C to 50°C, xflow	6.8E-05	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.20	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	19	cm³/10 min	ISO 1133
Specific Gravity	1.20	-	ASTM D792
Melt Flow Rate, 300°C/1.2 kgf	21	g/10 min	ASTM D1238
Mold Shrinkage, flow [2]	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow [2]	0.6 – 0.8	%	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Hopper Temperature	40 – 80	°C	
Melt Temperature	280 – 310	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 310	°C	
Nozzle Temperature	280 – 310	°C	
Mold Temperature	80 – 120	°C	
Back Pressure	3.0 – 10	MPa	
Screw speed (Circumferential speed)	0.15 – 0.25	m/s	

(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) 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.

(3) 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