LNP™ ELCRES™ ML0111

DESCRIPTION

LNP ELCRES ML0111 is based on Polycarbonate (PC) siloxane copolymer resin with high flow, high impact resistance performance and colorable. This is an injection molding (IM) grade and targeted for IMT/IML process.

GENERAL INFORMATION	
Features	High Flow, Impact resistant
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical, Material Handling, Defense

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	54	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	76	%	ASTM D638
Tensile Modulus, 50 mm/min	2380	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	97	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D790
Hardness, Rockwell L	92	-	ASTM D785
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.5	%	ISO 527
Tensile Strain, break, 50 mm/min	46	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Strength, 2 mm/min	93	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	753	J/m	ASTM D256
Izod Impact, notched, -30°C	124	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Instrumented Dart Impact Total Energy, 23°C	62	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	62	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	51	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 -30°C	10	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Charpy Impact, notched, 23°C	55	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	13	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, 23°C	NB	kJ/m²	ISO 179/2C
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	100	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	110	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	103	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	110	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	125	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	117	°C	ISO 306
Vicat Softening Temp, Rate B/120	119	°C	ISO 306
CTE, -40°C to 40°C, flow	6.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.6E-05	1/°C	ASTM E831
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	1.18	-	ASTM D792
Density	1.18	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.6	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.6	%	ASTM D955
Melt Flow Rate, 300°C/1.2 kgf	20	g/10 min	ASTM D1238
Moisture Absorption (23°C / 50% RH)	0.43	%	ISO 62
ELECTRICAL [1]			
Volume Resistivity	>1E+16	Ω.cm	ASTM D257
Surface Resistivity	>1E+16	Ω	ASTM D257
Dielectric Constant, 1.1 GHz	2.8	-	SABIC method
Dissipation Factor, 1.1 GHz	0.006	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104263180	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	100	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 305	°C	
Nozzle Temperature	275 – 300	°C	
Front - Zone 3 Temperature	280 – 305	°C	
Middle - Zone 2 Temperature	275 – 295	°C	
Rear - Zone 1 Temperature	260 – 285	°C	
Mold Temperature	60 – 80	°C	

(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