LNP™ ELCRES™ FXE9111T

DESCRIPTION

ELCRES FXE9111T PC-Siloxane copolymer resin is an injection molding grade. Non-chlorinated, non-brominated flame retardant with FR V0 at 2mm. This resin offers good low temperature ductility in combination with high flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. Available for VISUALFX capability in “Illuminate” colors. ELCRES FXE9111T resin may be an excellent candidate for a broad range of applications, including but not limited to Automobile, Appliance, Electronics, etc.

GENERAL INFORMATION	
Features	Flame Retardant, Good Processability, Aesthetics/Visual effects, Non Cl/Br flame retardant, Enhanced mold release, Impact resistant, Low temperature impact, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Consumer	Home Decoration, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20260430

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	57	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	54	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	92	%	ASTM D638
Tensile Modulus, 50 mm/min	2190	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	89	MPa	ASTM D790
Flexural Stress at 5% strain, 1.3 mm/min, 50 mm span	85	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2180	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	58	MPa	ISO 527
Tensile Stress, break, 50 mm/min	52	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	95	%	ISO 527
Tensile Modulus, 1 mm/min	2230	MPa	ISO 527
Flexural Stress at 3.5% strain, 2 mm/min	67.4	MPa	ISO 178
Flexural Strain, break, 2 mm/min	7.5	%	ISO 178
Flexural Strength, 2 mm/min	86.6	MPa	ISO 178
Flexural Modulus, 2 mm/min	2190	MPa	ISO 178
IMPACT [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, Unnotched			
23°C	2150	J/m	ASTM D4812
80*10*4 +23°C	180	kJ/m²	ISO 180/1U
Izod impact, notched			
10°C	500	J/m	ASTM D256
23°C	777	J/m	ASTM D256
80*10*4 +23°C	57	kJ/m²	ISO 180/1A
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	130	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	59	kJ/m²	ISO 179/1eA
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	119	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	107	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	107	°C	ISO 75/Af
CTE			
-40°C to 95°C, flow	7.5E-05	1/°C	ASTM E831
-40°C to 95°C, xflow	8.3E-05	1/°C	ASTM E831
23°C to 80°C, flow	8.1E-05	1/°C	ISO 11359-2
23°C to 80°C, xflow	8.6E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/50	132	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	126	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	125	°C	ISO 306
Vicat Softening Temp, Rate B/120	126	°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	1.20	-	ASTM D792
Density	1.201	g/cm³	ISO 1183
Water Absorption, (23°C/24hrs)	0.11	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.04	%	ISO 62-4
Melt Flow Rate			
300°C/1.2 kgf	19.5	g/10 min	ASTM D1238
Melt Volume Rate			
300°C/1.2 kg	18.3	cm³/10 min	ASTM D1238
Mold Shrinkage, flow [3]	0.66	%	SABIC method
Mold Shrinkage, xflow [3]	0.73	%	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104543605	-	-
UL Recognized, 94V-0 Flame Class Rating	≥2.0	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	90	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 285	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Nozzle Temperature	250 – 285	°C	
Front - Zone 3 Temperature	250 – 285	°C	
Middle - Zone 2 Temperature	250 – 285	°C	
Rear - Zone 1 Temperature	250 – 285	°C	
Mold Temperature	50 – 90	°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.

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