LNP™ ELCRES™ FXD1272

ER018131

DESCRIPTION

LNP ELCRES FXD1272 resin is an innovative solution of SLX resin with customized light diffusion effect featuring with good UV resistance and weathering stability. The material is intended for automotive exteriors, lighting, or adjacent applications.

GENERAL INFORMATION	
Features	Good Processability, Aesthetics/Visual effects
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Lighting, Automotive Exteriors

TYPICAL PROPERTY VALUES

Revision 20260413

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	64.4	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	59	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	5.4	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	78.1	%	ASTM D638
Tensile Modulus, 5 mm/min	2398	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	96	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2350	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	64.5	MPa	ISO 527
Tensile Stress, break, 5 mm/min	54.6	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	5.4	%	ISO 527
Tensile Strain, break, 5 mm/min	63.2	%	ISO 527
Tensile Modulus, 1 mm/min	2378	MPa	ISO 527
Flexural Strength, 2 mm/min	94	MPa	ISO 178
Flexural Modulus, 2 mm/min	2386	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	101	J/m	ASTM D256
Izod Impact, unnotched, 23°C	2120	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	8.6	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	137.74	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9.3	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	99.68	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	131	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	119	°C	ASTM D648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	131	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	120	°C	ISO 75/Af
CTE, 23°C to 80°C, flow	8.75E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, xflow	9.10E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	7.80E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.00E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	137	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	137	°C	ASTM D1525
PHYSICAL (1)			
Specific Gravity	1.21	-	ASTM D792
Density	1.21	g/cm³	ISO 1183
Melt Flow Rate, 300°C/1.2 kgf	16.6	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/2.16 kgf	27.4	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/5.0 kgf	70.4	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/1.2 kg	15.4	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/2.16 kg	25.5	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	65.4	cm³/10 min	ISO 1133
Water Absorption, (23°C/saturated)	0.09	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Mold Shrinkage, flow (2)	0.83	%	SABIC method
Mold Shrinkage, xflow (2)	0.86	%	SABIC method
INJECTION MOLDING (3)			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 310	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Mold Temperature	80 – 110	°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) 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.

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