LNP™ ELCRIN™ EXL8332TCC

DESCRIPTION

LNP ELCRIN EXL8332TCC polycarbonate (PC) siloxane copolymer resin is a UV stabilized transparent injection molding grade with 25% post consumer recycle (PCR) content. This resin offers excellent low temperature (-20~-30 °C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. ELCRIN EXL8332TCC resin is a general purpose product available in transparent and opaque colors and is an excellent candidate for a broad range of applications.

GENERAL INFORMATION	
Features	High Flow, IR Transparent, Mechanical Recycling, Transparent/Translucent, Impact resistant, Low temperature impact, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content)
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Recreational/Specialty Vehicles
Building and Construction	Building Component
Consumer	Personal Accessory, Home Appliances
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260203

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	63	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	110	%	ASTM D638
Tensile Modulus, 5 mm/min	2140	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2140	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	63	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	115	%	ISO 527
Tensile Modulus, 1 mm/min	2150	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	88	MPa	ISO 178
Flexural Modulus, 2 mm/min	2070	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	800	J/m	ASTM D256
Izod Impact, notched, -20°C	690	J/m	ASTM D256
Izod Impact, notched, -30°C	610	J/m	ASTM D256

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Total Energy, 23°C	71	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	85	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	61	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	46	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	66	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	34	kJ/m²	ISO 179/1eA
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 A/50	147	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	119	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.9E-05	1/°C	ASTM E831
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	12	g/10 min	ASTM D1238
Density	1.19	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.17	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.11	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	11	cm³/10 min	ISO 1133
OPTICAL [1]			
Light Transmission, 2.54 mm	86	%	ASTM D1003
Haze, 2.54 mm	2.2	%	ASTM D1003
ELECTRICAL [1]			
Volume Resistivity	>1E+15	Ω.cm	ASTM D257
Surface Resistivity	>1E+15	Ω	ASTM D257
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E207780-104440642	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Rear - Zone 1 Temperature	275 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
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) 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) 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.

(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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