LNP™ ELCRIN™ EXL4419G

DESCRIPTION

LNP ELCRIN EXL4419G polycarbonate (PC) siloxane copolymer resin is a 9% Glass Fiber (GF) reinforced opaque injection molding (IM) grade, that incorporates renewable feedstock through ISCC+ mass-balance certification. This medium flow resin offers much higher ductility, improved release characteristics and excellent processability with opportunities for shorter IM cycle times when compared to GF reinforced standard PC resins. EXL4419G resin is available in opaque colors only and is an excellent candidate for a broad range of applications that require a combination of stiffness and ductility.

GENERAL INFORMATION	
Features	Bio-Renewable, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Ophthalmics, Personal Accessory, Home Appliances
Electrical and Electronics	Mobile Phone - Computer - Tablets
Hygiene and Healthcare	Pharmaceutical Packaging and Drug Delivery
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260421

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	53	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	44	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	20	%	ASTM D638
Tensile Modulus, 5 mm/min	3300	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3200	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	55	MPa	ISO 527
Tensile Stress, break, 5 mm/min	43	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4.5	%	ISO 527
Tensile Strain, break, 5 mm/min	12.5	%	ISO 527
Tensile Modulus, 1 mm/min	3300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	3300	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	280	J/m	ASTM D256
Izod Impact, notched, -30°C	110	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	40	J	ASTM D3763

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	25	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	25	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	15	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 B/50	145	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	135	°C	ASTM D648
CTE, -40°C to 40°C, flow	4.07E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.94E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	4.07E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.94E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/120	146	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	134	°C	ISO 75/Af
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	1.25	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.2 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	11	g/10 min	ASTM D1238
Density	1.25	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.12	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.46	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Volume Resistivity	1.78E+17	Ω.cm	ASTM D257
Surface Resistivity	2.86E+17	Ω	ASTM D257
Dielectric Strength, in oil, 1.6 mm	31.5	kV/mm	ASTM D149
Relative Permittivity, 1 MHz	3.04	-	ASTM D150
Dissipation Factor			
1 MHz	0.0086	-	ASTM D150
1.9 GHz	0.0057	-	SABIC method
Dielectric Constant			
1.9 GHz	2.95	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-10263105	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	305 – 325	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	
Mold Temperature	80 – 115	°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) 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.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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