LNP™ ELCRIN™ EXL9134B

DESCRIPTION

ELCRIN EXL9134B polycarbonate (PC) siloxane copolymer resin is a UV stabilized high flow opaque injection molding (IM) grade with major component synthesized from Bio source. This resin offers UL94 V0 @1.5mm flame retardancy based on non-bromine, non-chlorine FR systems, extreme low temperature ductility (-35°C) characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. ELCRIN EXL9134B resin is a product available in a wide range of opaque colors and may be an excellent candidate for a wide range of applications.

GENERAL INFORMATION	
Features	Flame Retardant, Good Processability, Non Cl/Br flame retardant, Low temperature impact
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory, Home Appliances
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20241022

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	59	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	115	%	ASTM D638
Tensile Modulus, 5 mm/min	2100	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	92	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	56	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	108	%	ISO 527
Tensile Modulus, 1 mm/min	2000	MPa	ISO 527
Flexural Strength, 2 mm/min	87	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	785	J/m	ASTM D256
Izod Impact, notched, -30°C	655	J/m	ASTM D256
Izod Impact, notched, -40°C	380	J/m	ASTM D256
Izod Impact, notched 80*10*3 +23°C	65	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	30	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U

© 2025 Copyright by SABIC. All rights reserved

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	35	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
Instrumented Dart Impact Total Energy, 23°C	67	J	ASTM D3763
THERMAL (1)			
HDT, 1.82 MPa, 3.2mm, unannealed	123	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	6.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	6.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.2E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	140	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	139	°C	ISO 306
Vicat Softening Temp, Rate B/120	141	°C	ISO 306
Relative Temp Index, Elec (2)	125	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	115	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	125	°C	UL 746B
PHYSICAL (1)			
Specific Gravity	1.19	-	ASTM D792
Density	1.19	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.4	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Flow Rate, 300°C/1.2 kgf	16	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/1.2 kg	15	cm³/10 min	ISO 1133
Mold Shrinkage, flow, 3.2 mm (3)	0.4 – 0.8	%	SABIC method
ELECTRICAL (2)			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3.0	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥0.75	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥3.0	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥0.75	mm	UL 746A
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link (2)	E207780-101110005	-	-
UL Recognized, 94-5VA Flame Class Rating (2)	≥3.0	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (2)	≥1.5	mm	UL 94
UV-light, water exposure/immersion (2)	f1	-	UL 746C
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index 960°C, passes at	≥1.5	mm	IEC 60695-2-12
INJECTION MOLDING (4)			
Drying Temperature	120	°C	

© 2025 Copyright by SABIC. All rights reserved

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	

(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

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.

© 2025 Copyright by SABIC. All rights reserved