

LNPT[™] ELCREST[™] EXL9334

DESCRIPTION

LNP ELCRES EXL9334 is based on Polycarbonate (PC) siloxane copolymer resin. It is a UV stabilized, medium flow opaque material suitable for injection molding (IM) and sheet extrusion applications. This grade offers UL94 V0 @ 1.5mm flame retardancy based on non-bromine, non-chlorine FR systems, extreme low temperature ductility (-40°C) characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. It is available in a wide range of opaque colors and is targeted for a wide range of applications.

GENERAL INFORMATION

Features	Flame Retardant, High Flow, Non Cl/Br flame retardant, Non halogenated flame retardant, Impact resistant, Low temperature impact, Weatherable/UV stable
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Sheet extrusion, Injection Molding

INDUSTRY

Automotive
Building and Construction
Consumer
Electrical and Electronics
Industrial
Mass Transportation

SUB INDUSTRY

Aerospace, Recreational/Specialty Vehicles
Building Component
Ophthalmics, Home Decoration, Home Appliances
Energy Management, Mobile Phone - Computer - Tablets, Lighting
Electrical, Material Handling
Rail

TYPICAL PROPERTY VALUES

Revision 20231109

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 Stress, yld, 1.3 mm/min, 50 mm span	89	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2050	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 Stress, yield, 2 mm/min	87	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D4812

© 2023 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS[™]

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched, 23°C	750	J/m	ASTM D256
Izod Impact, notched, -30°C	725	J/m	ASTM D256
Izod Impact, notched, -40°C	685	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	65	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	140	°C	ASTM D648
Vicat Softening Temp, Rate B/50	140	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	123	°C	ASTM D648
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, 23°C to 80°C, flow	6.1E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	6.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	139	°C	ISO 306
Vicat Softening Temp, Rate B/120	141	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
Relative Temp Index, Elec ⁽²⁾	125	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	110	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	120	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow ⁽³⁾	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow ⁽³⁾	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/ 1.2 kgf	10	g/10 min	ASTM D1238
Density	1.19	g/cm ³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Water Absorption, (23°C/saturated)	0.4	%	ISO 62-1
Melt Volume Rate, MVR at 300°C/ 1.2 kg	9	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽¹⁾			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 0	3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	0.75	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	0.75	mm	UL 746A
Volume Resistivity	1E16	Ω.cm	ASTM D257
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E207780-638263	-	-
UL Yellow Card Link 2	E207780-638266	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	≥3	mm	UL 94
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
INJECTION MOLDING ⁽⁴⁾ ⁽⁵⁾			
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	
Rear - Zone 1 Temperature	270 – 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) 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) NOTE: Back Pressure, Screw Speed, Shot to Cylinder Size and Vent Depth are only mentioned as general guidelines. These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

(5) 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 NON-INFRINGEMENT 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.