

LNP™ ELCRIN™ 610009UXiQ

DESCRIPTION

LNP ELCRIN 610009UXiQ compound is based on Polycarbonate / Polybutylene Terephthalate (PC/PBT) blend, utilizing ELCRIN iQ upcycling technology containing minimum 19% Post-Consumer Recycling (PCR) weight content. Added features of this grade include: Flame Retardant, UL746C F1 Rating, UL94 VO and 5VA Flame Rating, UV Resistant, Impact Modified, Excellent Chemical Resistance. This is a good candidate for applications in the electrical industry including bobbins, switches, and enclosures.

GENERAL INFORMATION

Features	Flame Retardant, UV Resistant, Post-Consumer Recycled (PCR) content, Impact Modified
Fillers	Unreinforced
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Injection Molding, Extrusion

INDUSTRY

Automotive
Consumer
Electrical and Electronics

SUB INDUSTRY

Automotive Interiors
Sport/Leisure, Personal Accessory, Commercial Appliance
Electrical Devices and Displays

TYPICAL PROPERTY VALUES

Revision 20210716

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	48	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	41	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.9	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	74	%	ASTM D638
Tensile Modulus, 5 mm/min	2000	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	75	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	48	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.6	%	ISO 527
Tensile Strain, break, 50 mm/min	74.8	%	ISO 527
Tensile Modulus, 1 mm/min	2190	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	73	MPa	ISO 178
Flexural Modulus, 2 mm/min	2050	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	490	J/m	ASTM D256
Izod Impact, notched, -30°C	167	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	50	J	ASTM D3763
Izod Impact, notched 80°10°4 +23°C	31	kJ/m ²	ISO 180/1A
Izod Impact, notched 80°10°4 -30°C	10	kJ/m ²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	34	kJ/m ²	ISO 179/1eA
THERMAL ⁽¹⁾			
HDT, 1.82 MPa, 6.4 mm, unannealed	95	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	127	°C	ASTM D648
CTE, -40°C to 40°C, flow	8.16E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	9.74E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	8.16E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.74E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Bf
Relative Temp Index, Elec ⁽²⁾	120	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	120	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	140	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.35	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	1.1 – 1.4	%	SABIC method
Melt Flow Rate, 250°C/5.0 kgf	9.3	g/10 min	ASTM D1238
Density	1.34	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.08	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	7	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽²⁾			
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥0.63	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 4	≥0.46	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥0.46	mm	UL 746A
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E121562-104207620	-	-
UL Yellow Card Link 2	E121562-104207621	-	-
UL Yellow Card Link 3	E207780-104244704	-	-
UL Yellow Card Link 4	E207780-104244705	-	-
UL Yellow Card Link 5	E45329-104207638	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.63	mm	UL 94
UL Recognized, 94HB Flame Class Rating	0.46	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Temperature	250 – 265	°C	
Nozzle Temperature	245 – 260	°C	
Front - Zone 3 Temperature	250 – 265	°C	
Middle - Zone 2 Temperature	245 – 260	°C	
Rear - Zone 1 Temperature	240 – 255	°C	
Mold Temperature	50 – 75	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.025 – 0.038	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.

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.