LNP™ ELCRIN™ WF0061iQ

DESCRIPTION

LNP ELCRIN WF0061iQ compound is based on Polybutylene terephthalate (PBT) resin utilizing ELCRIN iQ upcycling technology containing minimum 26% Post-Consumer Recycling (PCR) weight content and 30% glass fiber. Added features of this grade include: Non-Chlorinated, Non-Brominated Flame Retardant, UL94V0 and 5VB Flame Rating, Excellent Chemical Resistance. This is a good candidate for a variety of applications needing a more sustainable FR and PBT solution.

GENERAL INFORMATION	
Applications	Automotive , Electronics, Healthcare, connector, evse, fan housing, ev socket
Features	Flame Retardant, Chemical Resistance, Advanced Recycling, Non Cl/Br flame retardant, High stiffness/Strength, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content)
Fillers	Glass Fiber
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding
Regional Availability	Europe, Asia, Americas

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Consumer	Home Decoration, Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets

TYPICAL PROPERTY VALUES

Revision 20260907

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	105	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	105	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	11000	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	165	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	165	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	9600	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	108	MPa	ISO 527
Tensile Stress, break, 5 mm/min	108	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	11000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	175	MPa	ISO 178
Flexural Stress, break, 2 mm/min	175	MPa	ISO 178
Flexural Modulus, 2 mm/min	10000	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	570	J/m	ASTM D4812

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched, 23°C	72	J/m	ASTM D256
Izod Impact, notched, -30°C	55	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	6	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	37	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	200	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	214	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.4E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8E-05	1/°C	ASTM E831
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Relative Temp Index, Elec [2]	75	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	75	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	75	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.56	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.28	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	0.57	%	SABIC method
Density	1.56	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.23	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	16	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Hot-Wire Ignition (HWI), PLC 1 [2]	≥0.8	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 0 [2]	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0 [2]	≥0.8	mm	UL 746A
Comparative Tracking Index [2]	600	V	IEC 60112
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-100945514	-	-
UL Yellow Card Link 2	E45329-100544173	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥3	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.8 mm	750	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 0.8 mm	960	°C	IEC 60695-2-12
INJECTION MOLDING [4]			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	245 – 260	°C	
Nozzle Temperature	230 – 255	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Front - Zone 3 Temperature	240 – 260	°C	
Middle - Zone 2 Temperature	235 – 250	°C	
Rear - Zone 1 Temperature	230 – 240	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	40 – 100	°C	

(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.

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