LNP™ ELCRIN™ WF0061BiQ

ER010049

DESCRIPTION

LNP ELCRIN WF0061BiQ is a 30% glass fiber reinforced, non-brominated, non-chlorinated flame-retardant Polybutylene Terephthalate (PBT) compound, utilizing iQ PBT chemical recycling process of Ocean Bound PET water bottles with minimum 26% ocean bound (OB) recycled content certified by UL 2809. Added features of this material include: good flow and UL V-0 rating at 0.8 mm thickness.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Good Processability, Heat Stabilized, High Flow, Sustainable (Advanced Recycling), Non Cl/Br flame retardant
Fillers	Glass Fiber
Brands	LNP™ ELCRIN™
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory
Industrial	Electrical, Material Handling

TYPICAL PROPERTY VALUES

Revision 20230905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	104	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	10800	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	165	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	10300	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	102	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	10720	MPa	ISO 527
Flexural Stress, break, 2 mm/min	162	MPa	ISO 178
Flexural Modulus, 2 mm/min	10570	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	540	J/m	ASTM D4812
Izod Impact, notched, 23°C	64	J/m	ASTM D256
Izod Impact, notched, -30°C	59	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	6	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, 23°C	5	J	ASTM D3763
Instrumented Dart Impact Peak Force, 23°C	1200	N	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	39	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8.5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	204	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	217	°C	ASTM D648
Vicat Softening Temp, Rate B/50	200	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	201	°C	ASTM D1525
CTE, -40°C to 40°C, flow	2.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ASTM E831
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	202	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	217	°C	ISO 75/Bf
Ball Pressure Test, approximate maximum [2]	175	°C	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	1.57	-	ASTM D792
Melt Flow Rate, 250°C/5.0 kgf	24	g/10 min	ASTM D1238
Density	1.54	g/cm³	ISO 1183
Water Absorption, (23°C/24hrs) [3]	0.08	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs) [3]	0.03	%	ISO 62-4
Melt Volume Rate, MVR at 250°C/5.0 kg	17	cm³/10 min	ISO 1133
Mold Shrinkage, flow [4]	0.4	%	SABIC method
Mold Shrinkage, xflow [4]	0.8	%	SABIC method
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	E207780-104504945	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥3.0	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 [5]			
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	
Front - Zone 3 Temperature	240 – 260	°C	
Middle - Zone 2 Temperature	235 – 250	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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) Based on internal method similar to ISO 62
(4) 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.
(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.

MORE INFORMATION

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

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