LNP™ ELCRIN™ 61000EUiQ2

DESCRIPTION

LNP ELCRIN 61000EUiQ2 (also known as ELCRIN ER011566) is based on Polycarbonate / Polybutylene Terephthalate (PC/PBT) alloy, utilizing iQ PBT generation 2 technology with 23% post consumer recycled content. Added features of this material include: excellent low temperature impact strength, improve retention of mechanical properties under UV exposure, good surface aesthetics, good chemical resistance.

GENERAL INFORMATION	
Features	Chemical Resistance, High Flow, High Impact Resistance, UV Resistant, Post-Consumer Recycled (PCR) content, Enhanced Low Temperature Impact, Aesthetics and Appearance, Sustainability
Fillers	Unreinforced
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors, Automotive Crash and Chassis, Automotive Exteriors
Building and Construction	Outdoor, Lawn and Landscape
Consumer	Sport/Leisure, Personal Accessory, Personal Recreation, Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays

TYPICAL PROPERTY VALUES

Revision 20210823

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	50	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	43	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	140	%	ASTM D638
Tensile Modulus, 50 mm/min	2000	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	79	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2010	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	146	%	ISO 527
Tensile Modulus, 1 mm/min	1980	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	76	MPa	ISO 178
Flexural Modulus, 2 mm/min	2050	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	740	J/m	ASTM D256
Izod Impact, notched, 0°C	710	J/m	ASTM D256
Izod Impact, notched, -40°C	420	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	58	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, 23°C	50	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Peak Force, 23°C	5000	N	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	56	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	56	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -40°C	46	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	60	kJ/m²	ISO 179/1eA
Charpy 0°C, V-notch Edgew 80*10*4 sp=62mm	56	kJ/m²	ISO 179/1eA
Charpy -40°C, V-notch Edgew 80*10*4 sp=62mm	44	kJ/m²	ISO 179/1eA
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	84	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	107	°C	ASTM D648
Vicat Softening Temp, Rate B/50	118	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	120	°C	ASTM D1525
CTE, -40°C to 40°C, flow	8.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	9.1E-05	1/°C	ASTM E831
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	79	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	101	°C	ISO 75/Bf
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	1.24	-	ASTM D792
Melt Flow Rate, 250°C/5.0 kgf	12	g/10 min	ASTM D1238
Density	1.23	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs) [3]	0.07	%	ISO 62-4
Water Absorption, (23°C/24hrs) [3]	0.12	%	ISO 62-1
Melt Volume Rate, MVR at 250°C/5.0 kg	11	cm³/10 min	ISO 1133
Mold Shrinkage, flow [4]	0.7	%	SABIC method
Mold Shrinkage, xflow [4]	0.8	%	SABIC method
ELECTRICAL [1] [2]			
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103938363	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
UV-light, water exposure/immersion	F2	-	UL 746C
INJECTION MOLDING [5]			
Drying Temperature	110	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	245 – 270	°C	
Nozzle Temperature	245 – 270	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Front - Zone 3 Temperature	245 – 270	°C	
Middle - Zone 2 Temperature	245 – 270	°C	
Rear - Zone 1 Temperature	245 – 270	°C	
Mold Temperature	65 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 80	rpm	
Shot to Cylinder Size	50 – 80	%	
Vent Depth	0.013 – 0.02	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) 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.

DISCLAIMER