LNP™ ELCRIN™ 610001UiQ2

DESCRIPTION

LNP ELCRIN 610001UiQ2 (also known as ELCRIN ER011568) is a non-brominated, non-chlorinated flame retardant Polycarbonate / Polybutylene Terephthalate (PC/PBT) alloy, utilizing iQ PBT generation 2 technology with minimum 12% post consumer recycled content. Added features of this material include: good impact strength, good chemical resistance, improved heat resistance, bright white color achievable, UL V-0 rating at 1.5 mm thickness and easy flow ability.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Ductile, Easy Molding, Good Mold Release, Good Processability, Heat Stabilized, High Flow, High Impact Resistance, Non-Brominated, Non-Chlorinated, UV Resistant, Weatherable, Colorable, Improved rigidity, Post-Consumer Recycled (PCR) content, Easy Flow, Sustainability
Fillers	Unreinforced
Polymer Types	Polycarbonate + PBT (PC+PBT), Polybutylene Terephthalate (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
Industrial	Electronic Material

TYPICAL PROPERTY VALUES

Revision 20211109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	54	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	120	%	ASTM D638
Tensile Modulus, 50 mm/min	2170	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	85	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2260	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	46	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	105	%	ISO 527
Tensile Modulus, 1 mm/min	2120	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	83	MPa	ISO 178
Flexural Modulus, 2 mm/min	2230	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	800	J/m	ASTM D256
Izod Impact, notched, 0°C	700	J/m	ASTM D256
Izod Impact, notched, -30°C	342	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	60	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Energy @ peak, 23°C	50	J	ASTM D3763
Instrumented Dart Impact Peak Force, 23°C	4500	N	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	58	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	44	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	17	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	48	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	18	kJ/m²	ISO 179/1eA
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	85	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	105	°C	ASTM D648
Vicat Softening Temp, Rate B/50	114	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	115	°C	ASTM D1525
CTE, -40°C to 40°C, flow	7.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.6E-05	1/°C	ASTM E831
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	90	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	105	°C	ISO 75/Bf
PHYSICAL [1]			
Specific Gravity	1.25	-	ASTM D792
Melt Flow Rate, 265°C/5.0 kgf	23	g/10 min	ASTM D1238
Density	1.25	g/cm³	ISO 1183
Melt Volume Rate, MVR at 265°C/5.0 kg	20	cm³/10 min	ISO 1133
Moisture Absorption, (23°C/50% RH/24hrs) [2]	0.06	%	ISO 62-4
Water Absorption, (23°C/24hrs) [2]	0.11	%	ISO 62-1
Mold Shrinkage, flow [3]	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow [3]	0.6 – 0.8	%	SABIC method
FLAME CHARACTERISTICS [4]			
UL Yellow Card Link	E207780-104539688	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥0.8	mm	UL 94
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
INJECTION MOLDING [5]			
Drying Temperature	80 – 90	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.04	%	
Melt Temperature	245 – 275	°C	
Nozzle Temperature	245 – 275	°C	
Front - Zone 3 Temperature	245 – 275	°C	
Middle - Zone 2 Temperature	220 – 265	°C	
Rear - Zone 1 Temperature	220 – 255	°C	
Mold Temperature	60 – 80	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	30 – 80	%	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vent Depth	0.038 – 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) Based on internal method similar to ISO 62.
(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) 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.
(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