LNP™ ELCRIN™ 6F006IiQ2

ER015808

DESCRIPTION

LNP ELCRIN 6F006IiQ2 (also known as ER015808) utilizing ELCRIN iQ generation 2 upcycling technology, is a 30% glass reinforced, impact modified thermoplastic PC/iQ PBT based compound. The grade contains a minimum of 23% PCR by weight, improved toughness and ductility.

GENERAL INFORMATION	
Features	Good Processability, Low Warpage, Colorable, Improved rigidity, Easy Flow, Enhanced Ductility, Sustainable (Advanced Recycling)
Fillers	Glass Fiber
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure

TYPICAL PROPERTY VALUES

Revision 20220411

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 1 mm/min	8120	MPa	ISO 527
Tensile Stress, yield, 5 mm/min	100	MPa	ISO 527
Tensile Stress, break, 5 mm/min	100	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Flexural Modulus, 2 mm/min	7680	MPa	ISO 178
Flexural Stress, break, 2 mm/min	155	MPa	ISO 178
Tensile Modulus, 5 mm/min	8070	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	95	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	7515	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	155	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Izod Impact, notched, 23°C	140	J/m	ASTM D256
Izod Impact, notched, -30°C	90	J/m	ASTM D256
Izod Impact, unnotched, 23°C	775	J/m	ASTM D4812
Instrumented Dart Impact Total Energy, 23°C	20	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, 23°C	9	J	ASTM D3763
Instrumented Dart Impact Peak Force, 23°C	1350	N	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	172	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	213	°C	ISO 75/Bf
HDT, 1.82 MPa, 3.2mm, unannealed	170	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	215	°C	ASTM D648
Vicat Softening Temp, Rate B/50	165	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	165	°C	ASTM D1525
CTE, -40°C to 40°C, flow	2.0E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	1.3E-04	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.49	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs) [2]	0.04	%	ISO 62-4
Water Absorption, (23°C/saturated) [2]	0.09	%	ISO 62-1
Melt Volume Rate, MVR at 250°C/5 kg	9	cm³/10 min	ASTM D1238
Melt Volume Rate, MVR at 265°C/5.0 kg	18	cm³/10 min	ISO 1133
Specific Gravity	1.49	-	ASTM D792
Melt Flow Rate, 250°C/5.0 kgf	12	g/10 min	ASTM D1238
Mold Shrinkage, flow	0.3 – 0.4	%	SABIC method
Mold Shrinkage, xflow	0.4 – 0.7	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.5	-	SABIC method
2.45 GHz	3.52	-	SABIC method
5 GHz	3.49	-	SABIC method
10 GHz	3.49	-	SABIC method
Dissipation Factor			
1.1 GHz	0.015	-	SABIC method
2.45 GHz	0.014	-	SABIC method
5 GHz	0.013	-	SABIC method
10 GHz	0.011	-	SABIC method
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E207780-104547073	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	110	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Middle - Zone 2 Temperature	255 – 275	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Nozzle Temperature	255 – 280	°C	
Mold Temperature	65 – 95	°C	
Back Pressure	0.3 – 0.6	MPa	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Screw Speed	50 – 80	rpm	
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) Based on internal method similar to ISO 62

(3) 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.

(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