LNP™ ELCRIN™ WF006NAiQ

ER009840

DESCRIPTION

LNP ELCRIN WF006NAiQ is an iQ PBT based compound containing 30% glass for NMT application. Added features of this material include: >25% PCR, high metal bonding strength, and good chemical resistance.

GENERAL INFORMATION	
Features	Structural, Chemical Resistance, High Flow, Post-Consumer Recycled, Good dimensional stability, High Stiffness, Nano molding technology grade, Good metal adhesion
Fillers	Glass Fiber
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure

TYPICAL PROPERTY VALUES

Revision 20210708

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	113	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.7	%	ASTM D638
Tensile Modulus, 5 mm/min	8800	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	178	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	7770	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	111	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.6	%	ISO 527
Tensile Modulus, 1 mm/min	8700	MPa	ISO 527
Flexural Strength, 2 mm/min	173	MPa	ISO 178
Flexural Modulus, 2 mm/min	7400	MPa	ISO 178
Bonding Strength ("T" treatment, shear type)	32	MPa	ISO 19095
IMPACT [1]			
Izod Impact, unnotched, 23°C	910	J/m	ASTM D4812
Izod Impact, notched, 23°C	150	J/m	ASTM D256
Izod Impact, notched, -30°C	110	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	51	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	14.5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	11	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	172	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	206	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	165	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	201	°C	ISO 75/Bf
CTE, -40°C to 40°C, flow	2.4E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.4E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.6E-05	1/°C	ISO 11359-2
PHYSICAL [1]			
Density	1.48	g/cm³	ISO 1183
Melt Flow Rate, 250°C/5.0 kgf	12	g/10 min	ASTM D1238
Melt Flow Rate, 275°C/5 kgf	24	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 250°C/5.0 kg	9	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 275°C/5 kg	19	cm³/10 min	ISO 1133
Mold Shrinkage, flow [2]	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow [2]	0.4 – 0.5	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant, 1.1 GHz	3.65	-	SABIC method
Dissipation Factor, 1.1 GHz	0.015	-	SABIC method
Dielectric Constant, 1.9 GHz	3.69	-	SABIC method
Dissipation Factor, 1.9 GHz	0.014	-	SABIC method
Dielectric Constant, 5 GHz	3.66	-	SABIC method
Dissipation Factor, 5 GHz	0.013	-	SABIC method
Dielectric Constant, 10 GHz	3.64	-	SABIC method
Dissipation Factor, 10 GHz	0.011	-	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 270	°C	
Nozzle Temperature	245 – 275	°C	
Front - Zone 3 Temperature	250 – 270	°C	
Middle - Zone 2 Temperature	250 – 270	°C	
Rear - Zone 1 Temperature	240 – 260	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature [4]	100 – 160	°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) 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.

(3) 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.

(4) Suggest to use narrow mold temperature 140C~160C for NMT application.

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