LNP™ ELCRIN™ WF006LXDiQ

DESCRIPTION

LNP ELCRIN WF006LXDiQ is based on an environmentally responsible and sustainable low carbon footprint resin. This grade contains a minimum of 37% PCR weight content. It is a glass fiber reinforced iQ PBT resin with excellent strength, stiffness, dimensional stability and heat resistance. Material may be suited for applications where food contact compliance is required. Restrictions may apply – please request a food contact declaration for details.

GENERAL INFORMATION	
Features	Structural, Food Contact Acceptable, Post-Consumer Recycled (PCR) content, Good dimensional stability, High Stiffness, High Strength, Low Extractable, Sustainability
Fillers	Glass Fiber
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Consumer	Home Decoration, Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays
Packaging	Flexible Food Packaging

TYPICAL PROPERTY VALUES

Revision 20210830

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	145	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	10500	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	205	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	8600	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	150	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	10500	MPa	ISO 527
Flexural Strength, 2 mm/min	210	MPa	ISO 178
Flexural Modulus, 2 mm/min	9000	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	630	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	600	J/m	ASTM D4812
Izod Impact, notched, 23°C	73	J/m	ASTM D256
Izod Impact, notched, -30°C	74	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	49	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	41	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	54	kJ/m²	ISO 179/1eU

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	48	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA
Multi-Axial Instrumented Impact Total Energy, 23°C	8	J	ISO 6603-2
Multi-Axial Instrumented Impact Energy @ peak, 23°C	7	J	ISO 6603-2
Multi-Axial Instrumented Impact Total Energy, -30°C	6	J	ISO 6603-2
Multi-Axial Instrumented Impact Energy @ peak, -30°C	6	J	ISO 6603-2
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	218	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	207	°C	ASTM D648
Vicat Softening Temp, Rate B/50	200	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	200	°C	ASTM D1525
CTE, 23°C to 60°C, flow	2.7E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, xflow	1.4E-04	1/°C	ASTM E831
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	218	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	205	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	200	°C	ISO 306
Vicat Softening Temp, Rate B/120	200	°C	ISO 306
CTE, 23°C to 60°C, flow	2.7E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.4E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
PHYSICAL [1]			
Specific Gravity	1.55	-	ASTM D792
Water Absorption, (23°C/24hrs)	<0.1	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.6	%	ASTM D570
Density	1.55	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs)	<0.1	%	ISO 62-4
Moisture Absorption, (23°C/50% RH/Equilibrium)	<0.2	%	ISO 62-4
Water Absorption, (23°C/24hrs)	<0.1	%	ISO 62-1
Water Absorption, (23°C/saturated)	0.6	%	ISO 62-1
Melt Volume Rate, MVR at 250°C/5.0 kg	35	cm³/10 min	ISO 1133
Mold Shrinkage, flow, 3.2 mm [2]	0.2 – 0.4	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	1 – 1.4	%	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.05	%	
Melt Temperature	240 – 265	°C	
Nozzle Temperature	250 – 260	°C	
Front - Zone 3 Temperature	260 – 270	°C	
Middle - Zone 2 Temperature	245 – 255	°C	
Rear - Zone 1 Temperature	220 – 230	°C	
Mold Temperature	65 – 90	°C	
Back Pressure	0.2 – 0.3	MPa	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Screw Speed	30 – 60	rpm	

(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.

DISCLAIMER