

# LNP™ ELCRIN™ WF006LiQ

## DESCRIPTION

LNP ELCRIN WF006LiQ, utilizing ELCRIN iQ upcycling technology, is a 30% glass filled iQ PBT grade based on food contact compliant ingredients. Added features include PCR content, excellent strength, stiffness and dimensional stability. Potential applications may be water treatment pump, sanitation for kitchen/bath. This grade contains minimum 37% PCR weight content. Under test for Potable Water Approval : ACS,KTW, WRAS, W270, NSF.

### GENERAL INFORMATION

Features	Food Contact Acceptable, Post-Consumer Recycled, Good dimensional stability, High Stiffness, High Strength
Fillers	Glass Fiber
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

### INDUSTRY

Building and Construction  
Consumer  
Packaging

### SUB INDUSTRY

Water Management  
Consumer Goods  
Food & Beverage, Consumer Packaging, Flexible Food Packaging

## TYPICAL PROPERTY VALUES

Revision 20210524

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 5 mm/min	114	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	114	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.2	%	ASTM D638
Tensile Modulus, 5 mm/min	11800	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	210	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	189	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	9100	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	139	MPa	ISO 527
Tensile Stress, break, 5 mm/min	139	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.6	%	ISO 527
Tensile Strain, break, 5 mm/min	1.6	%	ISO 527
Tensile Modulus, 1 mm/min	10700	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	210	MPa	ISO 178
Flexural Modulus, 2 mm/min	9100	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	770	J/m	ASTM D4812
Izod Impact, notched, 23°C	82	J/m	ASTM D256
Izod Impact, notched, -30°C	83	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	7	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80°10°4 +23°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80°10°4 -30°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm	14	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL <sup>(1)</sup></b>			
HDT, 1.8 MPa, 3.2mm, unannealed	203	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.9E-05	1/°C	ISO 11359-2
Ball Pressure Test, approximate maximum	200	°C	IEC 60695-10-2
HDT/Bf, 0.45 MPa Flatw 80°10°4 sp=64mm	217	°C	ISO 75/Bf
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.54	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.1	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm <sup>(2)</sup>	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm <sup>(2)</sup>	0.8 – 1	%	SABIC method
Melt Flow Rate, 250°C/5.0 kgf	52	g/10 min	ASTM D1238
Density	1.54	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.09	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	38	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL <sup>(1)</sup></b>			
Volume Resistivity	>1E15	Ohm-cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	23	kV/mm	ASTM D149
<b>INJECTION MOLDING <sup>(3)</sup></b>			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	120	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 265	°C	
Nozzle Temperature	245 – 265	°C	
Front - Zone 3 Temperature	250 – 265	°C	
Middle - Zone 2 Temperature	245 – 255	°C	
Rear - Zone 1 Temperature	240 – 255	°C	
Mold Temperature	65 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 80	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.025 – 0.038	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) 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.



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