LNP™ ELCRIN™ COMPOUND WF006XiQ

DESCRIPTION

LNP™ ELCRIN™ WF006XiQ - Environmentally responsible and sustainable low carbon footprint resin. ELCRIN WF006XiQ is a glass fiber reinforced iQ PBT (polybutylene terepthalate) resin with excellent strength, stiffness, dimensional stability and high heat resistance. Renewable content up to 46%.

TYPICAL PROPERTY VALUES

Revision 20190522

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.2	%	ASTM D 638
Tensile Modulus, 5 mm/min	11800	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	210	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	189	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	9100	MPa	ASTM D 790
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
IMPACT			
Izod Impact, unnotched, 23°C	770	J/m	ASTM D 4812
Izod Impact, notched, 23°C	82	J/m	ASTM D 256
Izod Impact, notched, -30°C	83	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	7	J	ASTM D 3763
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, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
THERMAL			
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.9E-05	1/°C	ASTM E 831
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
PHYSICAL			
Specific Gravity	1.54	-	ASTM D 792
Water Absorption, 24 hours	0.1	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow, 3.2 mm	0.8 – 1	%	SABIC method
Melt Flow Rate, 250°C/5.0 kgf	52	g/10 min	ASTM D 1238
Density	1.54	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.09	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	38	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	>1E15	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	23	kV/mm	ASTM D 149
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	12	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 – 260	°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	

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