LNP™ ELCRES™ CRX5421

DESCRIPTION

LNP ELCRES CRX5421 is a semi-crystalline Polycarbonate (PC) copolymer/Polybutylene Terephthalate (PBT) opaque blend. This resin offers medium flow, high ductility in combination with excellent chemical resistance. This grade is available for custom coloring and is intended for a wide variety of applications that need improved chemical resistance. This grade has passed the limited biocompatibility tests of ISO 10993-5 and ISO 10993-10.

GENERAL INFORMATION	
Features	Chemical Resistance, Healthcare/Formula lock, Impact resistant
Fillers	Unreinforced
Polymer Types	Polycarbonate + PBT (PC+PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Hygiene and Healthcare	Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing

TYPICAL PROPERTY VALUES

Revision 20241028

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	42	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	70	%	ASTM D638
Tensile Modulus, 50 mm/min	1820	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	1980	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	68	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	42	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	70	%	ISO 527
Tensile Modulus, 1 mm/min	1850	MPa	ISO 527
IMPACT [1]			
Izod Impact, notched, 23°C	645	J/m	ASTM D256
Izod Impact, notched, -30°C	180	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	60	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, 23°C	34	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	53	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 +23°C	54	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	64	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	123	°C	ASTM D648
Vicat Softening Temp, Rate B/50	129	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	136	°C	ASTM D1525
PHYSICAL [1]			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Specific Gravity	1.3	-	ASTM D792
Mold Shrinkage, flow [2]	1.0 – 1.6	%	SABIC method
Mold Shrinkage, xflow [2]	0.9 – 1.6	%	SABIC method
Melt Volume Rate, MVR at 250°C/5 kg	10	cm³/10 min	ASTM D1238
Melt Flow Rate, 250°C/5.0 kgf	11	g/10 min	ASTM D1238
ELECTRICAL			
Dielectric Constant			
100 MHz	2.87	-	SABIC method
2.47	2.84	-	SABIC method
Dissipation Factor			
100 MHz	0.0082	-	SABIC method
2.47	0.0057	-	SABIC method
Surface Resistivity	>1.E+14	Ω	ASTM D257
Volume Resistivity	>1.E+14	Ω.cm	ASTM D257
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E121562-104427473	-	-
UL Recognized, 94HB Flame Class Rating [3]	≥0.75	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	240 – 255	°C	
Rear - Zone 1 Temperature	225 – 240	°C	
Middle - Zone 2 Temperature	230 – 245	°C	
Front - Zone 3 Temperature	235 – 250	°C	
Nozzle Temperature	240 – 255	°C	
Mold Temperature	50 – 70	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	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) 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