LNP™ ELCRES™ CRX1314TW

DESCRIPTION

LNP ELCRES CRX1314TW is an amorphous PC copolymer resin that offers excellent chemical resistance combination with excellent impact strength and good optical properties (thin wall transparency). This medium flow resin features transparency to translucency based on thickness, low temperature ductility (-30C), and limited biocompatibility suitable for skin contact applications (ISO 10993 Part 5 for toxicity, Part 10 for skin sensitization, and Part 23 for irritation). Subject to LNP Healthcare management of change policy. It is intended for a wide variety of transparent and translucent healthcare applications that require improved chemical resistance and ductility.

GENERAL INFORMATION	
Features	Chemical Resistance, Thin Wall, Amorphous, IR Transparent, Transparent/Translucent, Healthcare/Formula lock, High temperature resistance, Impact resistant, Low temperature impact, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

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

TYPICAL PROPERTY VALUES

Revision 20240503

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 50 mm/min	2150	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	124	%	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.5	%	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	59	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	2250	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched, 23°C	910	J/m	ASTM D256
Izod Impact, notched, -30°C	700	J/m	ASTM D256
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	129	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	142	°C	ASTM D648
Vicat Softening Temp, Rate B/120	148	°C	ISO 306
PHYSICAL [1]			
Density	1.19	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Water Absorption, (23°C/24hrs)	0.2	%	ISO 62-1
Melt Volume Rate, MVR at 300°C/2.16 kg	10	cm³/10 min	ASTM D1238
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow [2]	0.5 – 0.9	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow [2]	0.5 – 0.9	%	SABIC method
Melt Flow Rate, 300°C/2.16 kgf	11	g/10 min	ASTM D1238
OPTICAL			
Light Transmission, 1.0 mm	89	%	ASTM D1003
Haze, 1.0 mm	2	%	ASTM D1003
FLAME CHARACTERISTICS [3]			
UL Recognized, 94HB Flame Class Rating	≥0.75	mm	UL 94
UL Yellow Card Link	E121562-104612026	-	-
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 340	°C	
Rear - Zone 1 Temperature	270 – 320	°C	
Middle - Zone 2 Temperature	280 – 330	°C	
Front - Zone 3 Temperature	290 – 340	°C	
Nozzle Temperature	290 – 340	°C	
Mold Temperature	80 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.025 – 0.076	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.

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