

LNPTTM ELCRESTTM DMX1233CR

DESCRIPTION

LNP ELCRES DMX1233CR compound is a PC resin based transparent material with scratch resistance, chemical resistance, high flow and good ductility.

GENERAL INFORMATION	
Features	Chemical Resistance, Scratch Resistance, Transparent/Translucent
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Electrical and Electronics	Electronic Components

TYPICAL PROPERTY VALUES

Revision 20240318

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, brk, Type I, 50 mm/min	45.2	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	55.6	%	ASTM D638
Tensile Modulus, 50 mm/min	2098	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	86.1	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1910	MPa	ASTM D790
Tensile Stress, break, 50 mm/min	45.4	MPa	ISO 527
Tensile Strain, break, 50 mm/min	56.7	%	ISO 527
Tensile Modulus, 1 mm/min	2059	MPa	ISO 527
Flexural Strength, 2 mm/min	83.5	MPa	ISO 178
Flexural Modulus, 2 mm/min	1974	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	46.3	J/m	ASTM D256
Izod Impact, notched, -30°C	27.3	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	1420	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	5.2	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4.89	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Instrumented Dart Impact Total Energy, 23°C	61	J	ASTM D3763
Instrumented Dart Impact Ductility, 23°C	100	%	ASTM D3763
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	99	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	87.3	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	100	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	87	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	8.0E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.0E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	7.9E-5	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.0E-5	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/120	107	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	108	°C	ISO 306
PHYSICAL ⁽¹⁾			
Specific Gravity	1.17	-	ASTM D792
Melt Flow Rate, 270°C/1.2 kgf	11.8	g/10 min	ASTM D1238
Melt Flow Rate, 280°C/1.2 kgf	16.6	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/1.2 kgf	44.6	g/10 min	ASTM D1238
Moisture Absorption, (23°C/50% RH/24hrs)	0.21	%	ISO 62-4
Mold Shrinkage, flow ⁽²⁾	0.83	%	SABIC method
Mold Shrinkage, xflow ⁽²⁾	0.9	%	SABIC method
OPTICAL ⁽¹⁾			
Light Transmission			
1.0 mm	90.2	%	ASTM D1003
2.0 mm	87.9	%	ASTM D1003
Haze, 1.0 mm	1.2	%	ASTM D1003
Haze, 2.0 mm	1.9	%	ASTM D1003
ELECTRICAL ⁽¹⁾			
Surface Resistivity	1.7E+17	Ω	ASTM D257
Volume Resistivity	3.08E+16	Ω.cm	ASTM D257
Dielectric Constant, 1.1 GHz	2.82	-	SABIC method
Dissipation Factor, 1.1 GHz	0.00972	-	SABIC method
Dielectric Constant, 1.9 GHz	2.83	-	SABIC method
Dissipation Factor, 1.9 GHz	0.01045	-	SABIC method
Dielectric Constant, 5 GHz	2.8	-	SABIC method
Dissipation Factor, 5 GHz	0.01206	-	SABIC method
Dielectric Constant, 10 GHz	2.81	-	SABIC method
Dissipation Factor, 10 GHz	0.01288	-	SABIC method
Dielectric Constant, 20 GHz	2.64	-	SABIC method
Dissipation Factor, 20 GHz	0.01255	-	SABIC method
INJECTION MOLDING ⁽³⁾			
Drying Temperature	75 – 80	°C	
Drying Time	5 – 6	Hrs	
Melt Temperature	250 – 280	°C	
Nozzle Temperature	250 – 280	°C	
Front - Zone 3 Temperature	250 – 280	°C	
Middle - Zone 2 Temperature	250 – 280	°C	
Rear - Zone 1 Temperature	250 – 280	°C	
Mold Temperature	50 – 60	°C	

- (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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