LNP™ ELCRES™ DMX1435D

REGION ASIA

DESCRIPTION

LNP™ ELCRES™ DMX1435D is a UV stabilized standard flow polycarbonate copolymer resin with diffusion effect and improved scratch resistance, which is a good candidate for Consumer Electronics, mobility interiors and other adjacent applications, which need lower scratch and diffusive effects performance.

TYPICAL PROPERTY VALUES

Revision 20191225

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	77	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7.5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	20	%	ASTM D 638
Tensile Modulus, 50 mm/min	2700	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	120	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D 790
Hardness, Rockwell L	110	-	ASTM D 785
Hardness, Rockwell M	90	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	77	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	20	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	110	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
Pencil Hardness test, 1kgf	H	-	ASTM D 3363
IMPACT			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	30	J/m	ASTM D 256
Izod Impact, notched, -30°C	30	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	7	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	40	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	2.2	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	2.0	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	2.2	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	2.5	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	46	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	138	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	129	°C	ASTM D 648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D 648
CTE, -40°C to 95°C, flow	7E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	7E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	7E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	136	°C	ISO 306
Vicat Softening Temp, Rate B/120	138	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	129	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
Relative Temp Index, Elec (1)	80	°C	UL 746B
Relative Temp Index, Mech w/impact (1)	80	°C	UL 746B
Relative Temp Index, Mech w/o impact (1)	80	°C	UL 746B
PHYSICAL			
Specific Gravity	1.18	-	ASTM D 792
Specific Volume	0.85	cm³/g	ASTM D 792
Density	1.17	g/cm³	ASTM D 792
Water Absorption, 24 hours	0.08	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.28	%	ASTM D 570
Water Absorption, 50% RH, equilib	0.13	%	ASTM D 570
Moisture Absorption, 50% RH, 24 hrs	0.04	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	15.4	g/10 min	ASTM D 1238
Density	1.18	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.27	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	14	cm³/10 min	ISO 1133
OPTICAL			
Light Transmission at 2.0 mm	85	%	ASTM D1003
Haze, 2mm	85	%	SABIC method
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E207780-104234328	-	-
UL Recognized, 94HB Flame Class Rating	≥0.6	mm	UL 94
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	70 – 95	°C	

(1) 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.

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