LEXAN™ COPOLYMER DMX1435

DESCRIPTION

LEXAN™ DMX1435 is a UV stabilized standard flow polycarbonate copolymer resin with improved scratch resistance, improved dielectric performance (lower Df). It is both transparency and colorable available solutions to the applications such as 5G related devices, anti-scratch covers, etc.

TYPICAL PROPERTY VALUES

Revision 20260408

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	80	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	70	%	ASTM D638
Tensile Modulus, 50 mm/min	2563	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	120	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2469	MPa	ASTM D790
Hardness, Rockwell L	108	-	ASTM D785
Hardness, Rockwell M	93	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	80	MPa	ISO 527
Tensile Stress, break, 50 mm/min	60	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	40	%	ISO 527
Tensile Modulus, 1 mm/min	2450	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	108	MPa	ISO 178
Flexural Modulus, 2 mm/min	2450	MPa	ISO 178
Ball Indentation Hardness, H358/30	128	MPa	ISO 2039-1
Pencil Hardness test, 1kgf	H	-	ASTM D3363
Erichson scratch depth, 6N	14	micrometer	SABIC method
IMPACT [1]			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, notched, 23°C	30	J/m	ASTM D256
Izod Impact, notched, -30°C	30	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	30	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	45	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	4	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	3	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	3	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	47	kJ/m²	ISO 179/1eU
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	139	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	133	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	119	°C	ASTM D648
CTE, -40°C to 95°C, flow	7.E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	7.E-05	1/°C	ASTM E831
Specific Heat	1.4	J/g-°C	ASTM C351
Thermal Conductivity	0.2	W/m-°C	ASTM C177
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	140	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	138	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	131	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
Relative Temp Index, Elec [2]	80	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	80	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.2	-	ASTM D792
Specific Volume	0.85	cm³/g	ASTM D792
Density	1.17	g/cm³	ASTM D792
Water Absorption, (23°C/24hrs)	0.08	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.28	%	ASTM D570
Moisture Absorption, (50% RH, Equilibrium)	0.13	%	ASTM D570
Moisture Absorption, (23°C/50% RH/24 hrs)	0.04	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm [3]	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	14.5	g/10 min	ASTM D1238
Density	1.17	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.27	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	13	cm³/10 min	ISO 1133
OPTICAL [1]			
Light Transmission, 2.54 mm	88	%	ASTM D1003
Haze, 2.54 mm	<0.8	%	ASTM D1003
Refractive Index	1.584	-	ASTM D542
Refractive Index	1.584	-	ISO 489
ELECTRICAL [1]			
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Dielectric Constant			
1.1 GHz	2.74	-	SABIC method
1.9 GHz	2.7	-	SABIC method
5 GHz	2.71	-	SABIC method
10 GHz	2.71	-	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dissipation Factor			
1.1 GHz	0.0024	-	SABIC method
1.9 GHz	0.0022	-	SABIC method
5 GHz	0.0022	-	SABIC method
10 GHz	0.0024	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-100081392	-	-
UL Recognized, 94HB Flame Class Rating	≥0.6	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	900	°C	IEC 60695-2-12
INJECTION MOLDING [4]			
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) 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) 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.

(3) 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.,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.

(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-assiInjection 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.st molding.

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