

LEXAN™ DMX3415M resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

LEXAN DMX3415M is a co-polycarbonate resin with improved scratch and abrasion resistance compared to standard polycarbonate. LEXAN DMX3415M is available in transparent colors.

General Information			
Features	Good Abrasion Resistance		
	Scratch Resistant		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
	Colors Available		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.20	g/cm ³	ASTM D792
--	1.17	g/cm ³	ISO 1183, ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	16.0	cm ³ /10min	ISO 1133
Water Absorption			ISO 62
Saturation, 23°C	0.27	%	
Equilibrium, 23°C, 50% RH	0.13	%	
Mechanical	Nominal Value	Unit	Test Method
Hardness			
Pencil Hardness ¹	H		ASTM D3363
Tensile Modulus			
-- ²	2900	MPa	ASTM D638
--	2450	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	80.0	MPa	ASTM D638
Yield	80.0	MPa	ISO 527-2/50
Break ⁴	60.0	MPa	ASTM D638
Break	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	7.0	%	ASTM D638
Yield	7.0	%	ISO 527-2/50
Break ⁶	36	%	ASTM D638

Break	27	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁷	2600	MPa	ASTM D790
-- ⁸	2450	MPa	ISO 178
Flexural Stress			
--	108	MPa	ISO 178
Yield, 50.0 mm Span ⁹	120	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰			ISO 179/1eA
-30°C	3.0	kJ/m ²	
23°C	3.0	kJ/m ²	
Charpy Unnotched Impact Strength ¹¹			ISO 179/1eU
-30°C	47	kJ/m ²	
23°C	No Break		
Notched Izod Impact			
-30°C	30	J/m	ASTM D256
23°C	30	J/m	ASTM D256
-30°C ¹²	4.0	kJ/m ²	ISO 180/1A
23°C ¹³	5.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	No Break		ASTM D4812, ISO 180/1U
-30°C ¹⁴	45	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	30.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	129	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹⁵	126	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	115	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁶	114	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	139	°C	ASTM D1525 ¹⁷
--	134	°C	ISO 306/B50
--	136	°C	ISO 306/B120
CLTE			ASTM E831
Flow : 23 to 80°C	7.0E-5	cm/cm/°C	
Transverse : 23 to 80°C	7.0E-5	cm/cm/°C	
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.584		ASTM D542, ISO 489
Transmittance (2540 µm)	88.0	%	ASTM D1003
Haze (2540 µm)	< 1.0	%	ASTM D1003
Injection	Nominal Value	Unit	

Drying Temperature	120	°C
Drying Time	3.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	260 to 280	°C
Middle Temperature	280 to 305	°C
Front Temperature	295 to 315	°C
Nozzle Temperature	290 to 310	°C
Processing (Melt) Temp	295 to 315	°C
Mold Temperature	70.0 to 95.0	°C

NOTE

1.	1 kgf
2.	50 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	Type I, 50 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	80*10*3 sp=62mm
11.	80*10*3 sp=62mm
12.	80*10*3
13.	80*10*3
14.	80*10*3
15.	80*10*4 mm
16.	80*10*4 mm
17.	Rate B (120°C/h), Loading 2 (50 N)

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