

LEXAN* DMX1435 Resin

Polycarbonate

SABIC Innovative Plastics

Product Description

Lexan* DMX1435 is a UV stabilized standard flow polycarbonate copolymer resin with improved scratch resistance.

General

Additive	• UV Stabilizer
Features	• Scratch Resistant
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.17	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	13.5	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.80	%	ASTM D955
Water Absorption			
24 hr, 50% RH	0.040	%	ASTM D570
24 hr	0.080	%	ASTM D570
Saturation, 23°C	0.27	%	ISO 62
Equilibrium, 23°C	0.28	%	ASTM D570
Equilibrium, 50% RH	0.13	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.13	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
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 ³	65.0	MPa	ASTM D638
Break	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ³	7.0	%	ASTM D638
Yield	7.0	%	ISO 527-2/50
Break ³	70	%	ASTM D638
Break	40	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁴	2600	MPa	ASTM D790
-- ⁵	2450	MPa	ISO 178
Flexural Strength			
-- ^{5,6}	108	MPa	ISO 178
Yield, 50.0 mm Span ⁴	120	MPa	ASTM D790
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	10.0	mg	

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	3.00	kJ/m ²	
23°C	3.00	kJ/m ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-30°C	47.0	kJ/m ²	
23°C	No Break		
Notched Izod Impact			
-30°C	30.0	J/m	ASTM D256
23°C	30.0	J/m	ASTM D256
-30°C ⁸	4.00	kJ/m ²	ISO 180/1A
23°C ⁸	5.00	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	No Break		ASTM D4812 ISO 180/1U
-30°C ⁸	45.0	kJ/m ²	ISO 180/1U
Instrumented Dart Impact			ASTM D3763
23°C, Total Energy	30.0	J	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
L-Scale	108		
M-Scale	93		
Ball Indentation Hardness (H 358/30)	128	MPa	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	133	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ⁹	131	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	119	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ⁹	118	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	139	°C	ASTM D1525 ¹⁰
--	138	°C	ISO 306/B50
--	140	°C	ISO 306/B120
CLTE			
Flow: -40 to 95°C	0.000070	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	0.000070	cm/cm/°C	ISO 11359-2
Transverse: -40 to 95°C	0.000070	cm/cm/°C	ASTM E831
Transverse: 23 to 80°C	0.000070	cm/cm/°C	ISO 11359-2
Specific Heat	1400	J/kg/°C	ASTM C351
Thermal Conductivity	0.20	W/m/K	ASTM C177 ISO 8302
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (1.00 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.584		ASTM D542 ISO 489
Transmittance	88.0	%	ASTM D1003
Haze	< 0.80	%	ASTM D1003
Additional Information	Nominal Value	Unit	Test Method
Ball Pressure Test			IEC 60695-10-2
Approximate maximum	140	°C	
125°C	Pass		
Erichson Scratch Depth (6N)	0.0140	mm	Internal Method
Pencil Hardness (1 kgf)	H		ASTM D3363
Specific Volume	0.850	cm ³ /g	ASTM D792

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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