

LEXAN™ FXE141RL resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

Nonhalogenated. Internal mold release.

General Information			
Features	Good Mold Release		
	Halogen Free		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.20	g/cm ³	
--	1.19	g/cm ³	
Specific Volume	0.835	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	11	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.15	%	
Equilibrium, 23°C	0.35	%	
Equilibrium, 100°C	0.58	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹			ASTM D638
Yield	62.1	MPa	
Break	68.9	MPa	
Tensile Elongation ²			ASTM D638
Yield	7.0	%	
Break	130	%	
Flexural Modulus ³ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	96.5	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	800	J/m	ASTM D256
Unnotched Izod Impact (23°C)	3200	J/m	ASTM D4812

Instrumented Dart Impact (23°C, Total Energy)	63.8	J	ASTM D3763
Gardner Impact (23°C)	169	J	ASTM D3029
Tensile Impact Strength ⁵	578	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	138	°C	
1.8 MPa, Unannealed, 6.40 mm	132	°C	
Vicat Softening Temperature	154	°C	ASTM D1525 ⁶
CLTE - Flow (-40 to 95°C)	6.8E-5	cm/cm/°C	ASTM E831
Specific Heat	1260	J/kg/°C	ASTM C351
Thermal Conductivity	0.27	W/m/K	ASTM C177
RTI Elec	130	°C	UL 746
RTI Imp	130	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohms · cm	ASTM D257
Dielectric Strength (3.20 mm, in Air)	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
1 MHz	2.96		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	0.010		
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Transmittance (2540 µm)	88.0	%	ASTM D1003
Haze (2540 µm)	1.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	271 to 293	°C	
Middle Temperature	282 to 304	°C	

Front Temperature	293 to 316	°C
Nozzle Temperature	288 to 310	°C
Processing (Melt) Temp	293 to 316	°C
Mold Temperature	71.1 to 93.3	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE

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|----|------------------------------------|
| 1. | Type I, 50 mm/min |
| 2. | Type I, 50 mm/min |
| 3. | 1.3 mm/min |
| 4. | 1.3 mm/min |
| 5. | Type S |
| 6. | Rate B (120°C/h), Loading 2 (50 N) |

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