

LEXAN™ EXL9414T resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

LEXAN EXL9414T resin grade is a halogen-free flame retardant polycarbonate featuring transparency, -40 degree C ductility and UL-94 V0 rating for injection molding applications. Excellent impact combined with good flow, all transparent colorability for aesthetics and thin wall flame retradancy makes this product an excellent candidate for thin wall applications.

General Information			
Features	Ductile		
	Flame Retardant		
	Good Flow		
	Halogen Free		
	High Impact Resistance		
Uses	Thin-walled Parts		
Appearance	Clear/Transparent		
	Colors Available		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	12.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.80	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.12	%	
Equilibrium, 23°C, 50% RH	0.090	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2180	MPa	ASTM D638
--	2300	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	57.6	MPa	ASTM D638
Yield	56.8	MPa	ISO 527-2/50
Break ³	59.1	MPa	ASTM D638
Break	55.3	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.6	%	ASTM D638
Yield	5.4	%	ISO 527-2/50

Break ⁵	120	%	ASTM D638
Break	110	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2180	MPa	ASTM D790
-- ⁷	2120	MPa	ISO 178
Flexural Stress			
--	88.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	92.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	60	kJ/m ²	
23°C	70	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	710	J/m	ASTM D256
23°C	820	J/m	ASTM D256
-30°C ¹¹	55	kJ/m ²	ISO 180/1A
23°C ¹²	65	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	75.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	121	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁴	116	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	139	°C	ASTM D1525, ISO 306/B120 11 ¹⁵
--	138	°C	ISO 306/B50
CLTE			
Flow : -40 to 95°C	6.7E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	6.7E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 95°C	8.0E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	8.0E-5	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-1		
1.80 mm	V-0		
Oxygen Index	36	%	ISO 4589-2

Optical	Nominal Value	Unit	Test Method
Transmittance (2000 μm)	84.0	%	Internal Method
Haze (2000 μm)	3.0	%	Internal Method
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

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

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