

LEXAN™ EXL8454 resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

LEXAN EXL8454 is a PC/siloxane copolymer resin with medium flow, excellent low temperature impact and 50% post consumer recycle content. Limited availability and restricted color only. Higher color variability and contamination risks including black specs needs to be considered before approval for use in applications.

General Information			
Recycled Content	Yes,50%		
Features	Copolymer		
	Low Temperature Impact Resistance		
	Medium Flow		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.80	%	Internal Method
Water Absorption (23°C, 24 hr)	0.15	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	2200	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	57.0	MPa	
Break	55.0	MPa	
Tensile Elongation ³			ASTM D638
Yield	6.0	%	
Break	100	%	
Flexural Modulus ⁴ (50.0 mm Span)	2100	MPa	ASTM D790
Flexural Strength ⁵ (Yield, 50.0 mm Span)	90.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-40°C ⁶	54	kJ/m ²	
-30°C ⁷	58	kJ/m ²	
-30°C ⁸	27	kJ/m ²	
23°C ⁹	65	kJ/m ²	
23°C ¹⁰	67	kJ/m ²	
Notched Izod Impact			ASTM D256
-40°C	650	J/m	
-30°C	700	J/m	
23°C	800	J/m	

Instrumented Dart Impact (23°C, Total Energy)	70.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 3.20 mm)	123	°C	ASTM D648
Vicat Softening Temperature	145	°C	ASTM D1525 ¹¹
CLTE			ASTM E831
Flow : -40 to 40°C	6.0E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Volume Resistivity	> 1.0E+15	ohms·cm	ASTM D257
Dielectric Strength (0.800 mm, in Oil)	15	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	3.00		ASTM D150
Dissipation Factor (1 MHz)	9.3E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.750 mm)	HB		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	850	°C	
3.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	875	°C	
3.00 mm	875	°C	
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.	5.0 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	1.3 mm/min		

5.	1.3 mm/min
6.	80*10*3 sp=62mm
7.	80*10*3 sp=62mm
8.	80*10*4 sp=62mm
9.	80*10*4 sp=62mm
10.	80*10*3 sp=62mm
11.	Rate B (120°C/h), Loading 2 (50 N)

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