

LEXAN* 243R Resin

Polycarbonate

SABIC Innovative Plastics



Prospector

Product Description

10.5 MFR. UV-stabilized. Improved flame retardance. Internal mold release.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Mold Release • UV Stabilizer
Features	• Flame Retardant
Forms	• Pellets
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)	11 g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70 %	ASTM D955
Water Absorption		ASTM D570
24 hr	0.15 %	
Equilibrium, 23°C	0.35 %	
Equilibrium, 100°C	0.58 %	
Specific Volume	0.830 cm ³ /g	ASTM D792

Mechanical	Nominal Value Unit	Test Method
Tensile Strength ²		ASTM D638
Yield	62.1 MPa	
Break	65.5 MPa	
Tensile Elongation ²		ASTM D638
Yield	7.0 %	
Break	110 %	
Flexural Modulus ³ (50.0 mm Span)	2340 MPa	ASTM D790
Flexural Strength ³ (Yield, 50.0 mm Span)	93.1 MPa	ASTM D790
Taber Abrasion Resistance		ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	10.0 mg	

Impact	Nominal Value Unit	Test Method
Notched Izod Impact (23°C)	801 J/m	ASTM D256
Unnotched Izod Impact (23°C)	3200 J/m	ASTM D4812
Gardner Impact (23°C)	169 J	ASTM D3029
Tensile Impact Strength ⁴	546 kJ/m ²	ASTM D1822

Hardness	Nominal Value Unit	Test Method
Rockwell Hardness		ASTM D785
M-Scale	70	
R-Scale	118	

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 ⁵
CLTE - Flow (-40 to 95°C)	0.000068 cm/cm/°C	ASTM E831
Specific Heat	1260 J/kg/°C	ASTM C351
Thermal Conductivity	0.27 W/m/K	ASTM C177

Electrical	Nominal Value Unit	Test Method
Volume Resistivity	> 1.0E+17 ohm-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	

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Electrical	Nominal Value Unit	Test Method
1 MHz	2.96	
Dissipation Factor		ASTM D150
50 Hz	0.00090	
60 Hz	0.00090	
1 MHz	0.010	
Flammability	Nominal Value Unit	Test Method
Flame Rating - UL		UL 94
1.47 mm	V-2	
5.99 mm	V-0	
Oxygen Index	25 %	ASTM D2863
UL 746	Nominal Value Unit	Test Method
RTI Str	130 °C	UL 746
RTI Imp	130 °C	UL 746
RTI Elec	130 °C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 2	UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)		UL 746
--	PLC 2	
Hot-wire Ignition (HWI) (PLC)	PLC 4	UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 1	UL 746
Outdoor Suitability	f1	UL 746C
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	

Notes

¹ Typical properties: these are not to be construed as specifications.

² Type I, 50 mm/min

³ 1.3 mm/min

⁴ Type S

⁵ Rate B (120°C/h), Loading 2 (50 N)