

LEXAN™ 243R resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

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

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet
UL Yellow Card ²	• E45587-236872 • E207780-228389
Search for UL Yellow Card	• SABIC Innovative Plastics Asia Pacific • LEXAN™
Availability	• Asia Pacific
Additive	• Mold Release • UV Stabilizer
Features	• Flame Retardant
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity			ASTM D792
--	1.20	1.20 g/cm ³	
--	1.19 g/cm ³	1.19 g/cm ³	
Specific Volume	23.0 in ³ /lb	0.830 cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	11 g/10 min	11 g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.126 in (3.20 mm))	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	Internal Method
Water Absorption			ASTM D570
24 hr	0.15 %	0.15 %	
Equilibrium, 73°F (23°C)	0.35 %	0.35 %	
Equilibrium, 212°F (100°C)	0.58 %	0.58 %	
Outdoor Suitability	f1	f1	UL 746C
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ⁴			ASTM D638
Yield	9000 psi	62.1 MPa	
Break	9500 psi	65.5 MPa	
Tensile Elongation ⁴			ASTM D638
Yield	7.0 %	7.0 %	
Break	110 %	110 %	
Flexural Modulus ⁵ (1.97 in (50.0 mm) Span)	340000 psi	2340 MPa	ASTM D790
Flexural Strength ⁵			ASTM D790
Yield, 1.97 in (50.0 mm) Span	13500 psi	93.1 MPa	
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	10.0 mg	10.0 mg	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	15 ft·lb/in	800 J/m	ASTM D256
Unnotched Izod Impact (73°F (23°C))	60 ft·lb/in	3200 J/m	ASTM D4812
Gardner Impact (73°F (23°C))	1500 in·lb	169 J	ASTM D3029
Tensile Impact Strength ⁶	260 ft·lb/in ²	546 kJ/m ²	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70	70	
R-Scale	118	118	



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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.252 in (6.40 mm)	280 °F	138 °C	
264 psi (1.8 MPa), Unannealed, 0.252 in (6.40 mm)	270 °F	132 °C	
Vicat Softening Temperature	310 °F	154 °C	ASTM D1525 ⁷
CLTE - Flow (-40 to 203°F (-40 to 95°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM E831
Specific Heat	0.301 Btu/lb/°F	1260 J/kg/°C	ASTM C351
Thermal Conductivity	1.9 Btu·in/hr/ft ² /°F	0.27 W/m/K	ASTM C177
RTI Elec	266 °F	130 °C	UL 746
RTI Imp	266 °F	130 °C	UL 746
RTI Str	266 °F	130 °C	UL 746
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	> 1.0E+17 ohm·cm	> 1.0E+17 ohm·cm	ASTM D257
Dielectric Strength			ASTM D149
0.126 in (3.20 mm), in Air	380 V/mil	15 kV/mm	
Dielectric Constant			ASTM D150
50 Hz	3.17	3.17	
60 Hz	3.17	3.17	
1 MHz	2.96	2.96	
Dissipation Factor			ASTM D150
50 Hz	9.0E-4	9.0E-4	
60 Hz	9.0E-4	9.0E-4	
1 MHz	0.010	0.010	
Comparative Tracking Index (CTI)	PLC 2	PLC 2	UL 746
High Amp Arc Ignition (HAI)	PLC 1	PLC 1	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2	PLC 2	UL 746
Hot-wire Ignition (HWI)	PLC 4	PLC 4	UL 746
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.0295 in (0.750 mm)	V-2	V-2	
0.236 in (6.00 mm)	V-0	V-0	
Oxygen Index	25 %	25 %	ASTM D2863
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ASTM D542
Transmittance (100 mil (2540 µm))	88.0 %	88.0 %	ASTM D1003
Haze (100 mil (2540 µm))	1.0 %	1.0 %	ASTM D1003
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	250 °F	121 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Drying Time, Maximum	48 hr	48 hr	
Suggested Max Moisture	0.020 %	0.020 %	
Suggested Shot Size	40 to 60 %	40 to 60 %	
Rear Temperature	520 to 560 °F	271 to 293 °C	
Middle Temperature	540 to 580 °F	282 to 304 °C	
Front Temperature	560 to 600 °F	293 to 316 °C	
Nozzle Temperature	550 to 590 °F	288 to 310 °C	
Processing (Melt) Temp	560 to 600 °F	293 to 316 °C	
Mold Temperature	160 to 200 °F	71.1 to 93.3 °C	
Back Pressure	50.0 to 100 psi	0.345 to 0.689 MPa	
Screw Speed	40 to 70 rpm	40 to 70 rpm	
Vent Depth	1.0E-3 to 3.0E-3 in	0.025 to 0.076 mm	



Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Type I, 2.0 in/min (50 mm/min)

⁵ 0.051 in/min (1.3 mm/min)

⁶ Type S

⁷ Rate B (120°C/h), Loading 2 (50 N)



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Where to Buy

Supplier

SABIC Innovative Plastics Asia Pacific

Shanghai, China

Telephone: +86-21-3222-4500

Web: <http://www.sabic-ip.com/>

Distributor

Please contact the supplier to find a distributor for LEXAN™ 243R resin

