

LEXAN* EXL9330 Resin

General Information

Product Description

Opaque PC-Siloxane copolymer with excellent processability. Non-chlorinated, non-brominated flame retardant product in most colors. UV-stabilized. UL rated f1/V-0/5VA.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Flame Retardant • UV Stabilizer
Features	• Bromine Free • Copolymer • Chlorine Free • Flame Retardant • Good Processability
Appearance	• Opaque
Processing Method	• Injection Molding
Multi-Point Data	• Viscosity vs. Shear Rate (ASTM D3835)

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.18	g/cm ³	ASTM D792
Density	1.19	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.80	%	Internal Method
Molding Shrinkage - Across Flow (3.20 mm)	0.40 to 0.80	%	Internal Method
Water Absorption (Saturation, 23°C)	0.35	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	2100	MPa	ASTM D638
Tensile Modulus	2100	MPa	ISO 527-2/1
Tensile Strength ³ (Yield)	58.6	MPa	ASTM D638
Tensile Stress (Yield)	55.0	MPa	ISO 527-2/50
Tensile Strength ³ (Break)	61.4	MPa	ASTM D638
Tensile Stress (Break)	60.0	MPa	ISO 527-2/50
Tensile Elongation ³ (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	130	%	ASTM D638
Tensile Strain (Break)	130	%	ISO 527-2/50
Flexural Modulus ⁴ (50.0 mm Span)	2070	MPa	ASTM D790
Flexural Modulus ⁵	2200	MPa	ISO 178
Flexural Strength ^{5, 6}	85.0	MPa	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Strength ⁴ (Yield, 50.0 mm Span)	88.9	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	60	kJ/m ²	
23°C	75	kJ/m ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			ASTM D256
-50°C	590	J/m	
-30°C	680	J/m	
23°C	800	J/m	
23°C, 6.40 mm	640	J/m	
Notched Izod Impact Strength			
-30°C ⁸	55	kJ/m ²	ISO 180/1A
-30°C ⁹	65	kJ/m ²	ISO 180/4A
23°C ⁸	70	kJ/m ²	ISO 180/1A
23°C ⁹	80	kJ/m ²	ISO 180/4A
Unnotched Izod Impact ¹⁰ (23°C)	1100	J/m	Internal Method
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	52.9	J	ASTM D3763
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	90.0	MPa	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	134	°C	
Heat Deflection Temperature ¹¹			ISO 75-2/Be
0.45 MPa, Unannealed, 100 mm Span	135	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	121	°C	
1.8 MPa, Unannealed, 6.40 mm	124	°C	
Heat Deflection Temperature ¹¹			ISO 75-2/Ae
1.8 MPa, Unannealed, 100 mm Span	124	°C	
Vicat Softening Temperature	142	°C	ASTM D1525 ¹²
Vicat Softening Temperature			
--	140	°C	ISO 306/B50
--	142	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (-40 to 40°C)	0.000067	cm/cm/°C	ASTM E831

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Thermal	Nominal Value	Unit	Test Method
CLTE - Flow (23 to 80°C)	0.000072	cm/cm/°C	ISO 11359-2
CLTE - Transverse (-40 to 40°C)	0.000067	cm/cm/°C	ASTM E831
CLTE - Transverse (23 to 80°C)	0.000077	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohm-cm	IEC 60093
Dielectric Strength (3.20 mm, in Oil)	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	2.95		
60 Hz	2.95		
1 MHz	2.90		
Relative Permittivity			IEC 60250
50 Hz	2.60		
60 Hz	2.60		
1 MHz	2.70		
Dissipation Factor			ASTM D150
50 Hz	0.0024		
60 Hz	0.0024		
1 MHz	0.0085		
Dissipation Factor			IEC 60250
50 Hz	0.0010		
60 Hz	0.0010		
1 MHz	0.0085		
Comparative Tracking Index	225	V	IEC 60112
Electric Strength (3.20 mm, in Oil)	16	kV/mm	IEC 60243-1
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
1.50 mm	V-0		
3.00 mm	5VA		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	825	°C	IEC 60695-2-13
Oxygen Index	35	%	ISO 4589-2
UL	Nominal Value	Unit	Test Method
RTI Str	120	°C	UL 746
RTI Imp	115	°C	UL 746
RTI Elec	125	°C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 3		UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 1		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 0		UL 746
Outdoor Suitability	f1		UL 746C

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Processing Information		
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	217 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	71.0 to 93.0	°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 50 mm/min

³ Type I, 50 mm/min

⁴ 1.3 mm/min

⁵ 2.0 mm/min

⁶ Yield

⁷ 80*10*3 sp=62mm

⁸ 80*10*3

⁹ 63.5*12.7*3.2

¹⁰ Double-Gated

¹¹ 120*10*4 mm

¹² Rate B (120°C/h), Loading 2 (50 N)