

LEXAN™ CFR9131 resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN CFR9131 Polycarbonate (PC) resin is a non-filled, injection moldable grade. This non-chlorinated, non-brominated flame retardant PC has an UL-94 V0 rating at 1.5 mm, high flow capability and is UV stabilized providing additional weathering capability. LEXAN CFR9131 is available in clear transparent and tinted color options that is an excellent candidate for a wide variety of applications.

General Information			
UL YellowCard	E45329-101047385		
Additive	UV stabilizer		
Features	Chlorine Free		
	Good weather resistance		
	Bromine-free		
	Flame retardancy		
RoHS Compliance	RoHS compliance		
Appearance	Available colors		
	Clear/transparent		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.19	g/cm ³	ASTM D792
--	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	17.0	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.55 - 0.75	%	Internal method
Transverse flow: 3.20mm	0.60 - 0.80	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.13	%	ISO 62
Equilibrium, 23°C, 50% RH	0.11	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2400	MPa	ASTM D638
--	2300	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	67.0	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50

Fracture ³	54.0	MPa	ASTM D638
Fracture	57.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Fracture ⁵	80	%	ASTM D638
Fracture	73	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2400	MPa	ASTM D790
-- ⁷	2400	MPa	ISO 178
Flexural Stress			
--	96.0	MPa	ISO 178
Yield, 50.0mm span ⁸	103	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	9.0	kJ/m ²	ISO 179/1eA
23°C	10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	85	J/m	ASTM D256
23°C	100	J/m	ASTM D256
-30°C ¹¹	9.0	kJ/m ²	ISO 180/1A
23°C ¹²	10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			ASTM D4812, ISO 180/1U
-30°C	No Break		ASTM D4812, ISO 180/1U
23°C	No Break		ASTM D4812, ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	65.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	130	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span ¹³	131	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	120	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁴	121	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	136	°C	ASTM D1525 ¹⁵
--	139	°C	ISO 306/B50
--	140	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			

Flow: -40 to 40°C	6.8E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	7.7E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	8.0E-5	cm/cm/°C	ISO 11359-2
RTI Elec	130	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Constant (1.10 GHz)	2.78		ASTM E57-83
Dissipation Factor (1.10 GHz)	5.6E-3		ASTM E57-83
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.400 mm	V-2		UL 94
1.50 mm	V-0		UL 94
Glow Wire Flammability Index (1.50 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.50 mm)	850	°C	IEC 60695-2-13
Optical	Nominal Value	Unit	Test Method
Transmittance			Internal method
1000 µm	> 90.0	%	Internal method
2000 µm	> 89.0	%	Internal method
3000 µm	> 88.0	%	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	
Rear Temperature	260 - 282	°C	
Middle Temperature	271 - 293	°C	
Front Temperature	282 - 304	°C	
Nozzle Temperature	277 - 299	°C	
Processing (Melt) Temp	282 - 304	°C	
Mold Temperature	71.1 - 93.3	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	40 - 70	rpm	
Vent Depth	0.025 - 0.076	mm	
NOTE			
1.	50 mm/min		
2.	Type 1, 50mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 50mm/min		
5.	Type 1, 50mm/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.	120*10*4 mm
14.	120*10*4 mm
15.	标准 B (120°C/h), 载荷2 (50N)

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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