

LEXAN™ CFR5630 resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN™ CFR5630 Polycarbonate (PC) is a non-filled resin, suitable for injection molding and extrusion. This non-chlorinated, non-brominated flame retardant PC resin meets FAR25.853 smoke density and 60 second vertical burn and OEM toxicity requirements. LEXAN CFR5630 resin is available in transparent and opaque colors.

General Information			
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Low Smoke Emission		
	Low Toxicity		
Agency Ratings	FAR 25.853		
Appearance	Clear/Transparent		
	Colors Available		
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)	5.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	5.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.55 to 0.75	%	
Across Flow : 3.20 mm	0.60 to 0.80	%	
Water Absorption			ISO 62
Saturation, 23°C	0.14	%	
Equilibrium, 23°C, 50% RH	0.11	%	
Outdoor Suitability	f1		UL 746C
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2500	MPa	ASTM D638
--	2400	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	68.0	MPa	ASTM D638
Yield	67.0	MPa	ISO 527-2/50

Break ³	52.0	MPa	ASTM D638
Break	52.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	51	%	ASTM D638
Break	23	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2400	MPa	ASTM D790
-- ⁷	2500	MPa	ISO 178
Flexural Stress			
--	103	MPa	ISO 178
Yield, 50.0 mm Span ⁸	106	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	9.0	kJ/m ²	
23°C	10	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	130	kJ/m ²	
23°C	130	kJ/m ²	
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			
-30°C	2000	J/m	ASTM D4812
23°C	2200	J/m	ASTM D4812
-30°C ¹³	No Break		ISO 180/1U
23°C ¹⁴	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	66.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	131	°C	ASTM D648
0.45 MPa, Unannealed, 100 mm Span ¹⁵	131	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	120	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹⁶	120	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	136	°C	ASTM D1525 ¹⁷
--	137	°C	ISO 306/B50
--	139	°C	ISO 306/B120

Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	6.6E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	7.2E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	7.6E-5	cm/cm/°C	ISO 11359-2
RTI Elec	125	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Constant (1.10 GHz)	2.79		ASTM E57-83
Dissipation Factor (1.10 GHz)	5.8E-3		ASTM E57-83
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	875	°C	IEC 60695-2-13
Oxygen Index	45	%	ISO 4589-2
FAA Flammability ¹⁸	PASSES		FAR 25.853
NBS Smoke Density - Flaming, Dmax	70.0		ASTM E662
Vertical Burn Test			FAR 25.853
Test a (60 s), passes at	5.0	sec	
Test b (12 s), passes at	5.0	sec	
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	266 to 288	°C	
Middle Temperature	277 to 299	°C	
Front Temperature	288 to 310	°C	
Nozzle Temperature	282 to 304	°C	
Processing (Melt) Temp	288 to 310	°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.	50 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 mm/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.	80*10*3
14.	80*10*3
15.	120*10*4 mm
16.	120*10*4 mm
17.	Rate B (120°C/h), Loading 2 (50 N)
18.	Method A/B

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