

## SABIC Innovative Plastics Lexan® CFR5630D PC COPOLYMER

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

LEXAN™ CFR5630D 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 CFR5630D resin is available in 5 prematched diffusion colors.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Lexan-CFR5630D-PC-COPOLYMER.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-CFR5630D-PC-COPOLYMER.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.110 %	0.110 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.14 %	0.14 %	ISO 62
Linear Mold Shrinkage, Flow	0.0055 - 0.0075 cm/cm @Thickness 3.20 mm	0.0055 - 0.0075 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.0 g/10 min @Load 1.20 kg, Temperature 300 °C	5.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	5.0 g/10 min @Load 1.20 kg, Temperature 300 °C	5.0 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	52.0 MPa	7540 psi	Type I, 50 mm/min; ASTM D638
	52.0 MPa	7540 psi	50 mm/min; ISO 527
Tensile Strength, Yield	67.0 MPa	9720 psi	50 mm/min; ISO 527
	68.0 MPa	9860 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	23 %	23 %	50 mm/min; ISO 527
	51 %	51 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments, ISO 527
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527
	2.50 GPa	363 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	103 MPa	14900 psi	2 mm/min; ISO 178
	106 MPa	15400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.40 GPa	348 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.50 GPa	363 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.00 J/cm	1.87 ft-lb/in	ASTM D256
	0.850 J/cm @Temperature -30.0 °C	1.59 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ASTM D4812
Izod Impact, Notched (ISO)	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	80*10*3; ISO 180/1A
	9.00 kJ/m <sup>2</sup> @Temperature -30.0 °C	4.28 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	13.2 J/cm <sup>2</sup>	62.8 ft-lb/in <sup>2</sup>	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	12.9 J/cm <sup>2</sup> @Temperature -30.0 °C	61.4 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	0.900 J/cm <sup>2</sup> @Temperature -30.0 °C	4.28 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	66.0 J	48.7 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	66.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	36.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
	72.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	40.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^\circ\text{C}$	@Temperature 73.4 - 176 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
	76.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	42.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^\circ\text{C}$	@Temperature 73.4 - 176 $^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	131 $^\circ\text{C}$	268 $^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
	131 $^\circ\text{C}$	268 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	120 $^\circ\text{C}$	248 $^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	120 $^\circ\text{C}$	248 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	136 $^\circ\text{C}$	277 $^\circ\text{F}$	Rate B/50; ASTM D1525
	137 $^\circ\text{C}$	279 $^\circ\text{F}$	Rate B/50; ISO 306
	139 $^\circ\text{C}$	282 $^\circ\text{F}$	Rate B/120; ISO 306
UL RTI, Electrical	125 $^\circ\text{C}$	257 $^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	120 $^\circ\text{C}$	248 $^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	125 $^\circ\text{C}$	257 $^\circ\text{F}$	UL 746B
Oxygen Index	45 %	45 %	ISO 4589
Glow Wire Test	875 $^\circ\text{C}$	1610 $^\circ\text{F}$	IEC 60695-2-13
	960 $^\circ\text{C}$	1760 $^\circ\text{F}$	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties Dielectric Constant	2.79 Metric	2.79 English	Comments ASTM ES 7-83
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	
Dissipation Factor	0.0058 @Frequency 1.10e+9 Hz	0.0058 @Frequency 1.10e+9 Hz	ASTM ES 7-83

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	Pass	IEC 60695-10-2
FAA Flammability, FAR 25.853 A/B	PASSES	FAR 25.853
NBS Smoke Density, Flaming, Dmax	70	ASTM E 662
UV-light, water exposure/immersion	F1	UL 746C
Vertical Burn a (60s) passes at	5sec	FAR 25.853
Vertical Burn b (12s) passes at	5sec	FAR 25.853

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