

SABIC Innovative Plastics Lexan® CFR5630 PC COPOLYMER

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

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.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-CFR5630-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 ³	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 ³ /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	21.5 J/cm	40.3 ft-lb/in	ASTM D4812
	20.0 J/cm @Temperature -30.0 °C	37.5 ft-lb/in @Temperature -22.0 °F	ASTM D4812
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*3; ISO 180/1A
	9.00 kJ/m ² @Temperature -30.0 °C	4.28 ft-lb/in ² @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 ²	62.8 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	12.9 J/cm ² @Temperature -30.0 °C	61.4 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	0.900 J/cm ² @Temperature -30.0 °C	4.28 ft-lb/in ² @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 $^\circ\text{C}$ @Thickness 3.20 mm	268 $^\circ\text{F}$ @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 $^\circ\text{C}$ @Thickness 3.20 mm	248 $^\circ\text{F}$ @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 $^\circ\text{C}$ @Thickness 1.00 mm	1760 $^\circ\text{F}$ @Thickness 0.0394 in	IEC 60695-2-12

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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