LEXAN™ COPOLYMER CFR5630

REGION AMERICAS

DESCRIPTION

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.

TYPICAL PROPERTY VALUES

Revision 20260331

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	68	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	52	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	51	%	ASTM D638
Tensile Modulus, 50 mm/min	2500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	106	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	67	MPa	ISO 527
Tensile Stress, break, 50 mm/min	52	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	23	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	103	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	2150	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	2000	J/m	ASTM D4812
Izod Impact, notched, 23°C	100	J/m	ASTM D256
Izod Impact, notched, -30°C	85	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	66	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	9	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	132	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	129	kJ/m²	ISO 179/1eU
THERMAL [1]			
Vicat Softening Temp, Rate B/50	136	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	131	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E831

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CTE, 23°C to 80°C, flow	7.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.6E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	139	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	131	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	120	°C	ISO 75/Ae
Relative Temp Index, Elec [2]	125	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	120	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	125	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.55 – 0.75	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	0.6 – 0.8	%	SABIC method
Melt Flow Rate			
300°C/1.2 kgf	5	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.14	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.11	%	ISO 62
Melt Volume Rate			
300°C/1.2 kg	5	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	2.79	-	ASTM ES 7-83
Dissipation Factor			
1.1 GHz	0.0058	-	ASTM ES 7-83
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-101088456	-	-
UL Recognized, 94-5VA Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥0.4	mm	UL 94
FAA Flammability, FAR 25.853 A/B	PASSES	-	FAR 25.853
Vertical Burn a (60s) passes at	5	Seconds	FAR 25.853
Vertical Burn b (12s) passes at	5	Seconds	FAR 25.853
NBS Smoke Density, Flaming, Dmax	<100	-	ASTM E662
Glow Wire Ignitability Temperature, 3.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	875	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Oxygen Index (LOI)	45	%	ISO 4589
UV-light, water exposure/immersion	F1	-	UL 746C

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 310	°C	
Nozzle Temperature	280 – 305	°C	
Front - Zone 3 Temperature	290 – 310	°C	
Middle - Zone 2 Temperature	275 – 300	°C	
Rear - Zone 1 Temperature	265 – 290	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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