

SABIC Innovative Plastics Lexan® 4704 PPC

Category : Polymer , Thermoplastic , Polyphthalate Carbonate

Material Notes:

High heat resistant polycarbonate copolymer, provides DTUL of 300F at 264 psi. FDA food contact compliant in limited colors. Effective January 15th, 2008 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HPH4704.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-4704-PPC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ASTM D792
	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Water Absorption	0.19 % @Time 86400 sec	0.19 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.350 %	0.350 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.16 %	0.16 %	ISO 62
Linear Mold Shrinkage, Flow	0.0080 - 0.010 cm/cm @Thickness 3.20 mm	0.0080 - 0.010 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	2.0 g/10 min @Load 1.20 kg, Temperature 300 °C	2.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	2.0 g/10 min @Load 1.20 kg, Temperature 300 °C	2.0 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	ASTM D785
Hardness, Rockwell R	127	127	ASTM D785
Tensile Strength at Break	68.0 MPa	9860 psi	50 mm/min; ISO 527
	77.0 MPa	11200 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D638
	68.0 MPa	9860 psi	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	102 %	102 %	50 mm/min; ISO 527
Elongation at Yield	7.0 %	7.0 %	50 mm/min; ISO 527
	8.0 %	8.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.08 GPa	302 ksi	5 mm/min; ASTM D638
	2.17 GPa	315 ksi	1 mm/min; ISO 527
Flexural Yield Strength	66.0 MPa	9570 psi	2 mm/min; ISO 178
	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.07 GPa	300 ksi	2 mm/min; ISO 178
	2.33 GPa	338 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	3.73 J/cm	6.99 ft-lb/in	ASTM D256
	0.840 J/cm	1.57 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	80*10*4; ISO 180/1A
	6.00 kJ/m ²	2.86 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Tensile Impact Strength	577 kJ/m ²	275 ft-lb/in ²	Type S; ASTM D1822
Dart Drop, Total Energy	149 J	110 ft-lb	ASTM D3029
	74.0 J	54.6 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	81.0 µm/m-°C	45.0 µin/in-°F	

Thermal Properties	Metric	English	ASTM E 831 Comments
	95.0 °C	203 °F	
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Specific Heat Capacity	1.25 J/g-°C	0.299 BTU/lb-°F	ASTM C351
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft²-°F	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	150 °C	302 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	148 °C	298 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	165 °C	329 °F	Rate B/50; ISO 306
	167 °C	333 °F	Rate B/120; ISO 306
	173 °C	343 °F	Rate B/50; ASTM D1525
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical with Impact	130 °C	266 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.47 mm	@Thickness 0.0579 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.60	1.60	ASTM D542
Haze	1.0 %	1.0 %	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	85 %	85 %	2.54 mm; ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 2.50e+17 ohm-cm	>= 2.50e+17 ohm-cm	ASTM D257
Dielectric Constant	3.1	3.1	ASTM D150

Electrical Properties	@Frequency 1.00e+6 Metric Hz	@Frequency 1.00e+6 English Hz	Comments
	3.27	3.27	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	in air; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0016	0.0016	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.026	0.026	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten; ASTM D495
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Specific Volume	0.83cm ³ /g	ASTM D792

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