

SABIC Innovative Plastics Lexan® PPC4704 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. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-PPC4704-PPC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D 792
Density	1.19 g/cc	0.0430 lb/in ³	ASTM D 792
Water Absorption	0.19 % @Time 86400 sec	0.19 % @Time 24.0 hour	ASTM D 570
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 D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	ASTM D 785
Hardness, Rockwell R	127	127	ASTM D 785
Tensile Strength at Break	77.0 MPa	11200 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	78 %	78 %	Type I, 50 mm/min; ASTM D 638
Flexural Yield Strength	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.33 GPa	338 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	3.73 J/cm @Temperature 23.0 °C	6.99 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	32.04 J/cm @Temperature 23.0 °C	60.02 ft-lb/in @Temperature 73.4 °F	ASTM D 4812

Mechanical Properties	Metric	English	Comments
Dart Drop, Total Energy	149 J	110 ft-lb	ASTM D 3029
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	81.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	45.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
Specific Heat Capacity	1.25 J/g·°C	0.299 BTU/lb·°F	ASTM C 351
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft²·°F	ASTM C 177
Deflection Temperature at 1.8 MPa (264 psi)	148 °C	298 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
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 D 542
Haze	1.0 %	1.0 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	85 %	85 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 2.50\text{e}+17$ ohm-cm	$\geq 2.50\text{e}+17$ ohm-cm	ASTM D 257
Dielectric Constant	3.1	3.1	ASTM D 150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.27	3.27	ASTM D 150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	

Electrical Properties Dielectric Strength	70.0 kV/mm Metric	508 kV/in English	Comments in air, ASTM D 149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0016 @Frequency 50.0 - 60.0 Hz	0.0016 @Frequency 50.0 - 60.0 Hz	ASTM D 150
	0.026 @Frequency 100 Hz	0.026 @Frequency 100 Hz	ASTM D 150
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten, PLC code 6; ASTM D 495
Comparative Tracking Index	175 - 250 V	175 - 250 V	PLC code 3; UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	PLC code 2; UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	surface, PLC code 3; UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	PLC code 3; UL 746A

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