

SABIC Innovative Plastics Lexan® 4704 PPC (Asia Pacific)

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-Asia-Pacific.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
Water Absorption	0.19 % @Time 86400 sec	0.19 % @Time 24.0 hour	ASTM D570
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

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	ASTM D785
Hardness, Rockwell R	127	127	ASTM D785
Tensile Strength at Break	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
Elongation at Break	78 %	78 %	Type I, 50 mm/min; ASTM D638
Flexural Yield Strength	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	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
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D4812
Tensile Impact Strength	577 kJ/m ²	275 ft-lb/in ²	Type S; ASTM D1822

Dart Drop, Total Energy Mechanical Properties	149 J Metric	110 ft-lb English	ASTM D3029 Comments
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Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	81.0 $\mu\text{m/m-}^{\circ}\text{C}$ @Temperature -40.0 - 95.0 $^{\circ}\text{C}$	45.0 $\mu\text{in/in-}^{\circ}\text{F}$ @Temperature -40.0 - 203 $^{\circ}\text{F}$	ASTM E 831
Specific Heat Capacity	1.25 J/g- $^{\circ}\text{C}$	0.299 BTU/lb- $^{\circ}\text{F}$	ASTM C351
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft 2 - $^{\circ}\text{F}$	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	148 $^{\circ}\text{C}$ @Thickness 3.20 mm	298 $^{\circ}\text{F}$ @Thickness 0.126 in	unannealed; ASTM D648
UL RTI, Electrical	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	UL 746B
UL RTI, Mechanical with Impact	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	UL 746B
UL RTI, Mechanical without Impact	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	UL 746B
Flammability, UL94	HB @Thickness 1.47 mm	HB @Thickness 0.0579 in	UL 94

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

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 2.50\text{e}+17$ ohm-cm	$\geq 2.50\text{e}+17$ ohm-cm	ASTM D257
Dielectric Constant	3.1 @Frequency 1.00e+6 Hz	3.1 @Frequency 1.00e+6 Hz	ASTM D150
	3.27 @Frequency 50.0 - 60.0 Hz	3.27 @Frequency 50.0 - 60.0 Hz	ASTM D150
Dielectric Strength	20.0 kV/mm @Thickness 3.20 mm	508 kV/in @Thickness 0.126 in	in air; ASTM D149
Dissipation Factor	0.0016	0.0016	ASTM D150

Electrical Properties	@Frequency 50.0 - 60.0 Metric Hz	@Frequency 50.0 - 60.0 English Hz	Comments
	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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