

SABIC Innovative Plastics Lexan® PPC4701 PPC

Category : Polymer , Thermoplastic , Polyphthalate Carbonate

Material Notes:

High heat resistant polyphthlate carbonate, provides DTUL of 300F at 264 psi. 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-PPC4701-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 %	0.19 %	ASTM D 570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0080 - 0.010 cm/cm	0.0080 - 0.010 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	2.0 g/10 min	2.0 g/10 min	ASTM D 1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

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	6.99 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D 4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Impact Strength	577 kJ/m ²	275 ft-lb/in ²	Type S; ASTM D 1822

Mechanical Properties	^{149 J} Metric	^{110 ft-lb} English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	ASTM D 3929

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	81.0 µm/m-°C @Temperature -40.0 - 95.0 °C	45.0 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E 831
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 @Thickness 3.20 mm	298 °F @Thickness 0.126 in	unannealed; ASTM D 648
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 @Thickness 1.47 mm	HB @Thickness 0.0579 in	UL 94

Optical Properties	Metric	English	Comments
Refractive Index	1.60	1.60	ASTM D 542
Haze	1.0 % @Thickness 2.54 mm	1.0 % @Thickness 0.100 in	ASTM D 1003
Transmission, Visible	85 % @Thickness 2.54 mm	85 % @Thickness 0.100 in	ASTM D 1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 2.50e+17 ohm-cm	>= 2.50e+17 ohm-cm	ASTM D 257
Dielectric Constant	3.1 @Frequency 1.00e+6 Hz	3.1 @Frequency 1.00e+6 Hz	ASTM D 150
	3.27 @Frequency 50.0 - 60.0 Hz	3.27 @Frequency 50.0 - 60.0 Hz	ASTM D 150
Dielectric Strength	20.0 kV/mm	508 kV/in	in air; ASTM D 149

Electrical Properties	@Thickness 3.20 mm Metric	@Thickness 0.126 in English	Comments
Dissipation Factor	0.0016	0.0016	ASTM D 150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.026	0.026	ASTM D 150
	@Frequency 100 Hz	@Frequency 100 Hz	
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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