

SABIC Innovative Plastics Lexan® 4701R PPC

Category : Polymer , Thermoplastic , Polyphthalate Carbonate

Material Notes:

High heat resistant polyphthlate carbonate, provides DTUL of 300F at 264 psi.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-4701R-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
Water Absorption	0.19 %	0.19 %	ASTM D570
	@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 D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
	9.0 g/10 min	9.0 g/10 min	ASTM D1238
	@Load 6.10 kg, Temperature 300 °C	@Load 13.4 lb, Temperature 572 °F	

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

Mechanical Properties	Metric	English	Comments
Dart Drop, Total energy	149 J	110 ft-lb	ASTM D3029

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	81.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature -40.0 - 95.0 $^{\circ}\text{C}$	45.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature -40.0 - 203 $^{\circ}\text{F}$	ASTM E 831
Specific Heat Capacity	1.26 J/g- $^{\circ}\text{C}$	0.301 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

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 @Frequency 50.0 - 60.0 Hz	0.0016 @Frequency 50.0 - 60.0 Hz	ASTM D150

Electrical Properties	0.025 Metric	0.025 English	Comments
	@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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