

SABIC Innovative Plastics Lexan® 4504 PPC

Category : Polymer , Thermoplastic , Polyphthalate Carbonate

Material Notes:

High heat resistant polycarbonate copolymer, provides DTUL of 290F 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 HPH4504.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-4504-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	0.16 % @Time 86400 sec	0.16 % @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	0.0070 - 0.0080 cm/cm @Thickness 3.20 mm	0.0070 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	3.0 g/10 min @Load 1.20 kg, Temperature 300 °C	3.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	3.0 g/10 min @Load 1.20 kg, Temperature 300 °C	3.0 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	85	85	ASTM D785
Hardness, Rockwell R	122	122	ASTM D785
Tensile Strength at Break	71.0 MPa	10300 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D638
	65.0 MPa	9430 psi	5 mm/min; ISO 527
	65.0 MPa	9430 psi	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments, ISO 527
	122 %	122 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D638
	7.0 %	7.0 %	50 mm/min; ISO 527
Tensile Modulus	2.09 GPa	303 ksi	5 mm/min; ASTM D638
	2.26 GPa	328 ksi	1 mm/min; ISO 527
Flexural Yield Strength	66.0 MPa	9570 psi	2 mm/min; ISO 178
	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.02 GPa	293 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.12 GPa	307 ksi	2 mm/min; ISO 178
Izod Impact, Notched	6.40 J/cm	12.0 ft-lb/in	ASTM D256
	1.44 J/cm	2.70 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)	13.0 kJ/m ²	6.19 ft-lb/in ²	80*10*4; ISO 180/1A
	11.0 kJ/m ²	5.23 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.50 J/cm ²	7.14 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
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
	73.0 J	53.8 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 -	@Temperature -40.0 -	

Thermal Properties	40.0 °C Metric	104 °F English	Comments
	91.8 µm/m-°C	51.0 µin/in-°F	
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	ASTM E 831
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
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)	132 °C	270 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	143 °C	289 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	154 °C	309 °F	Rate B/50; ISO 306
	155 °C	311 °F	Rate B/120; ISO 306
	160 °C	320 °F	Rate B/50; ASTM D1525
UL RTI, Electrical	125 °C	257 °F	UL 746B
UL RTI, Mechanical with Impact	125 °C	257 °F	UL 746B
UL RTI, Mechanical without Impact	125 °C	257 °F	UL 746B
Flammability, UL94	V-2	V-2	
	@Thickness 1.47 mm	@Thickness 0.0579 in	UL 94

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

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 2.60e+17 ohm-cm	>= 2.60e+17 ohm-cm	ASTM D257

Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	3.15	3.15	
Dielectric Strength	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	ASTM D150
	20.2 kV/mm	513 kV/in	in air; ASTM D149
Dissipation Factor	@Thickness 3.20 mm	@Thickness 0.126 in	
	0.0012	0.0012	
Dissipation Factor	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	ASTM D150
	0.024	0.024	ASTM D150
Comparative Tracking Index	@Frequency 100 Hz	@Frequency 100 Hz	
Hot Wire Ignition, HWI	175 - 250 V	175 - 250 V	UL 746A
High Amp Arc Ignition, HAI	30 - 60 sec	30 - 60 sec	UL 746A
High Voltage Arc-Tracking Rate, HVTR	0.00 - 15 arcs	0.00 - 15 arcs	UL 746A
	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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