SABIC Innovative Plastics Lexan® 303 PC (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Clear, high viscosity material designed to service severe environments of HID lighting.This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-303-PC-Asia-Pacific.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/in³	ASTM D 792
Water Absorption	0.15 % @Time 86400 sec	0.15 % @Time 24.0 hour	ASTM D 570
Moisture Absorption at Equilibrium	0.35 % @Temperature 23.0 °C	0.35 % @Temperature 73.4 °F	ASTM D 570
	0.58 % @Temperature 100 °C	0.58 % @Temperature 212 °F	ASTM D 570
Viscosity	800000 cP	800000 cP	melt; SABIC Method
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.5 g/10 min @Load 1.20 kg, Temperature 300 °C	5.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70	70	ASTM D 785
Hardness, Rockwell R	118	118	ASTM D 785
Tensile Strength at Break	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	51.0 MPa	7400 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	300 %	300 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638
Flexural Yield Strength	82.0 MPa	11900 psi	1.3 mm/min, 50 mm span; ASTM D 790

Mechanical Properties	Metric	English	Comments
Flexural Modulus	2.34 GPa	339 ksi	3.2 mm, 50 mm span; ASTM D 790
Izod Impact, Notched	9.07 J/cm @Temperature 23.0 °C	17.0 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
Tensile Impact Strength	546 kJ/m²	260 ft-lb/in²	Type S; ASTM D 1822
Dart Drop, Total Energy	169 J @Temperature 23.0 °C	125 ft-lb @Temperature 73.4 °F	ASTM D 3029
Taber Abrasion, mg/1000 Cycles	10 @Load 1.00 kg	10 @Load 2.20 lb	CS-17; ASTM D 1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 µm/m-°C @Temperature -40.0 - 95.0 °C	38.0 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E 831
	81.0 µm/m-°C @Temperature -40.0 - 40.0 °C	45.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	139 µm/m-°C @Temperature 60.0 - 138 °C	77.2 µin/in-°F @Temperature 140 - 280 °F	ASTM E 831
Specific Heat Capacity	1.25 J/g-°C	0.299 BTU/lb-°F	ASTM C 351
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft²-°F	ASTM C 177
Deflection Temperature at 0.46 MPa (66 psi)	137 °C @Thickness 6.40 mm	279 °F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	132 °C @Thickness 6.40 mm	270 °F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	154 °C	309 °F	Rate B/50; ASTM D 1525
UL RTI, Electrical	115 °C	239 °F	UL 746B
UL RTI, Mechanical with Impact	115 °C	239 °F	UL 746B
UL RTI, Mechanical without Impact	115 °C	239 °F	UL 746B
	V-2	V-2	

Thermal Properties	Metric	English	Comments
Flammability, UL 94	@Thickness 1.47 mm	@Thickness 0.0579 in	UL 94

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D 542
Haze	1.0 % @Thickness 2.54 mm	1.0 % @Thickness 0.100 in	ASTM D 1003
Transmission, Visible	88 % @Thickness 2.54 mm	88 % @Thickness 0.100 in	ASTM D 1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm	>= 1.00e+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
	3.17 @Frequency 50.0 - 60.0 Hz	3.17 @Frequency 50.0 - 60.0 Hz	ASTM D 150
	3.3 @Frequency 100 Hz	3.3 @Frequency 100 Hz	ASTM D 150
Dielectric Strength	15.7 kV/mm @Thickness 3.20 mm	399 kV/in @Thickness 0.126 in	in air; ASTM D 149
	23.2 kV/mm @Thickness 1.60 mm	589 kV/in @Thickness 0.0630 in	in oil; ASTM D 149
Dissipation Factor	0.00090 @Frequency 50.0 - 60.0 Hz	0.00090 @Frequency 50.0 - 60.0 Hz	ASTM D 150
	0.0020 @Frequency 100 Hz	0.0020 @Frequency 100 Hz	ASTM D 150
	0.020 @Frequency 1.00e+6 Hz	0.020 @Frequency 1.00e+6 Hz	ASTM D 150
Arc Resistance	0.00 - 60 sec	0.00 - 60 sec	Tungsten, PLC code 7; ASTM D 495
Comparative Tracking Index	250 - 400 V	250 - 400 V	PLC code 2; UL 746A

Electrical Properties	Metric	English	Comments
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	PLC code 2; UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	surface, PLC code 4; UL 746A
High Voltage Arc-Tracking Rate, HVTR	10.0 - 25.4 mm/min	0.394 - 1.00 in/min	PLC code 1; UL 746A

Descriptive Properties	Value	Comments
UV-light, water exposure/immersion	F2	UL 746C

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