

SABIC Innovative Plastics Lexan® 141S PC (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Nonhalogenated. 10.5 MFR. Internal mold release. 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-141S-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/in ³	ASTM D 792
Water Absorption	0.15 %	0.15 %	ASTM D 570
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	0.35 %	0.35 %	ASTM D 570
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.58 %	0.58 %	ASTM D 570
	@Temperature 100 °C	@Temperature 212 °F	
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	10.5 g/10 min	10.5 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	70	70	ASTM D 785
Hardness, Rockwell R	118	118	ASTM D 785
Tensile Strength at Break	68.0 MPa	9860 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	130 %	130 %	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	96.0 MPa	13900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D 790

Mechanical Properties	Metric	English	Comments
	@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/m²	275 ft-lb/in²	Type S; ASTM D 1822
Dart Drop, Total Energy	169 J	125 ft-lb	ASTM D 3029
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	63.0 J	46.5 ft-lb	Instrumented Impact Energy @ peak; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Taber Abrasion, mg/1000 Cycles	10	10	CS-17; ASTM D 1044
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 µm/m-°C	38.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
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	279 °F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	132 °C	270 °F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	154 °C	309 °F	Rate B/50; ASTM D 1525

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

Electrical Properties	Metric	English	Comments
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Volume Resistivity Electrical Properties	$\geq 1.00\text{e}+17$ ohm-cm Metric	$\geq 1.00\text{e}+17$ ohm-cm English	ASTM D 257 Comments
Dielectric Constant	2.96	2.96	ASTM D 150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.17	3.17	ASTM D 150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	14.9 kV/mm	378 kV/in	in air; ASTM D 149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.00090	0.00090	ASTM D 150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.010	0.010	ASTM D 150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

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