

SABIC Innovative Plastics Lexan® PK2870 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

LEXAN® PK2870 polycarbonate resin, global grade, MVR (300C/1.2kg) 2 cm³/10min, high viscosity, branched, blow molding, high melt strength, high impact resistance, Available in transparent colors only. FDA 21CFR177.1580, European food contact regulation EC Directive 2002/72/EC. Designed to be a candidate for water bottle applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-PK2870-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption	0.150 %	0.150 %	23°C / 50% RH; ISO 62
Moisture Absorption at Equilibrium	0.35 %	0.35 %	ASTM D570
	0.58 %	0.58 %	ASTM D570
	@Temperature 100 °C	@Temperature 212 °F	
Water Absorption at Saturation	0.35 %	0.35 %	ISO 62
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	2.5 g/10 min	2.5 g/10 min	ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
Melt Index of Compound	2.0 g/10 min	2.0 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
	4.0 g/10 min	4.0 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 2.16 kg, Temperature 300 °C	@Load 4.76 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ISO 2039-2
Tensile Strength at Break	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D638
	70.0 MPa	10200 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric 65.0 MPa	English 9400 psi	Comments 50 mm/min; ISO 527
Elongation at Break	>= 70 %	>= 70 %	Type I, 50 mm/min; ASTM D638
	>= 70 %	>= 70 %	50 mm/min; ISO 527
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	2.35 GPa	341 ksi	50 mm/min; ASTM D638
	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	93.0 MPa	13500 psi	1.3 mm/min, 50 mm span; ASTM D790
	95.0 MPa	13800 psi	2 mm/min; ISO 178
Flexural Modulus	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched	7.50 J/cm	14.1 ft-lb/in	ASTM D256
	1.50 J/cm	2.81 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB	NB	ASTM D4812
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	75.0 kJ/m ²	35.7 ft-lb/in ²	80*10*3; ISO 180/1A
	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB	NB	80*10*3; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	7.00 J/cm ²	33.3 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA

Mechanical Properties	5.00 J/cm² Metric	23.8 ft-lb/in² English	Comments 5.1 23.10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	170 J	125 ft-lb	ASTM D3029

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Specific Heat Capacity	1.25 J/g-°C	0.299 BTU/lb-°F	ASTM C351
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ASTM C177
	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	145 °C	293 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	145 °C	293 °F	ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	130 °C	266 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	130 °C	266 °F	ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	149 °C	300 °F	Rate B/50; ISO 306
	150 °C	302 °F	Rate B/120; ISO 306
	150 °C	302 °F	Rate B/50; ASTM D1525

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ISO 489
Haze	<= 0.80 %	<= 0.80 %	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	88 %	88 %	2.54 mm; ASTM D1003

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2

Descriptive Properties	Value	Comments
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