

SABIC Innovative Plastics Lexan® HPS2R PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Med/high flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO, steam, e-beam and gamma sterilizable. Contains a higher amount of mold release than HPS2.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HPS2R-PC-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption	0.150 %	0.150 %	23°C / 50% RH; ISO 62
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	on Tensile Bar; SABIC Method
Melt Index of Compound	16 g/10 min @Load 1.20 kg, Temperature 300 °C	16 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	95.0 MPa	13800 psi	ISO 2039-1
Tensile Strength at Break	65.0 MPa	9430 psi	50 mm/min; ISO 527
Tensile Strength, Yield	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	100 %	100 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
Tensile Modulus	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	60.0 kJ/m ²	28.6 ft-lb/in ²	80*10*3; ISO 180/1A
	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U

Mechanical Properties	Metric	English	Comments
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	3.50 J/cm²	16.7 ft-lb/in²	ISO 179/2C
	6.50 J/cm²	30.9 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.50 J/cm²	7.14 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Taber Abrasion, mg/1000 Cycles	10	10	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ISO 8302
Hot Ball Pressure Test	<= 140 °C	<= 284 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	133 °C	271 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	122 °C	252 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	140 °C	284 °F	Rate B/50; ISO 306
	141 °C	286 °F	Rate B/120; ISO 306
Flammability, UL94	HB	HB	UL 94 by SABIC-IP
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	UL 94 by SABIC-IP
	@Thickness 3.00 mm	@Thickness 0.118 in	
Oxygen Index	25 %	25 %	ISO 4589
Glow Wire Test	850 °C	1560 °F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ISO 489

Optical Properties	$\leq 0.80\%$ Metric	$\leq 0.80\%$ English	Comments ¹³
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	88 - 90 %	88 - 90 %	2.54 mm; ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+15$ ohm	$\geq 1.00\text{e}+15$ ohm	ROA; IEC 60093
Dielectric Constant	2.7	2.7	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.7	2.7	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	17.0 kV/mm	432 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.010	0.010	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

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

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