

SABIC Innovative Plastics Lexan® XHT4141 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

XHT4141 is a high flow, high heat polycarbonate copolymer. It is available in a range of opaque and limited transparent colors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-XHT4141-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.21 g/cc	0.0437 lb/in ³	ISO 1183
Moisture Absorption	0.250 %	0.250 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.50 %	0.50 %	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0095 cm/cm @Thickness 3.20 mm	0.0060 - 0.0095 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	25 g/10 min @Load 2.16 kg, Temperature 330 °C	25 g/10 min @Load 4.76 lb, Temperature 626 °F	ASTM D1238
Melt Index of Compound	24 g/10 min @Load 2.16 kg, Temperature 330 °C	24 g/10 min @Load 4.76 lb, Temperature 626 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	67.0 MPa	9720 psi	50 mm/min; ISO 527
	69.0 MPa	10000 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	77.0 MPa	11200 psi	Type I, 50 mm/min; ASTM D638
	78.0 MPa	11300 psi	50 mm/min; ISO 527
Elongation at Break	50 %	50 %	Type I, 50 mm/min; ASTM D638
	50 %	50 %	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	2.73 GPa	396 ksi	5 mm/min; ASTM D638
	2.75 GPa	399 ksi	1 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	120 MPa	17400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.60 GPa	377 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.60 GPa	377 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.930 J/cm	1.74 ft-lb/in	ASTM D256
	0.760 J/cm	1.42 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*3; ISO 180/1A
	8.00 kJ/m ²	3.81 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	1.10 J/cm ²	5.23 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	0.900 J/cm ²	4.28 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	72.0 J	53.1 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 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831

Thermal Properties	Metric @Temperature -40.0 - 40.0 °C	English @Temperature -40.0 - 104 °F	Comments
	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	173 °C	343 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	174 °C	345 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	162 °C	324 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	165 °C	329 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	181 °C	358 °F	Rate B/120; ISO 306
	183 °C	361 °F	Rate B/50; ASTM D1525
	183 °C	361 °F	Rate B/50; ISO 306
UL RTI, Electrical	150 °C	302 °F	UL 746B
UL RTI, Mechanical with Impact	130 °C	266 °F	UL 746B
UL RTI, Mechanical without Impact	150 °C	302 °F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	
Glow Wire Test	875 °C	1610 °F	IEC 60695-2-13
	960 °C	1760 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm	>= 1.00e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+17 ohm	>= 1.00e+17 ohm	ASTM D257
Dielectric Constant	3.02	3.02	
	@Frequency 1.00e+6	@Frequency 1.00e+6	ASTM D150

Electrical Properties	Hz Metric	Hz English	Comments
	3.12	3.12	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	Pass	IEC 60695-10-2
Ball Pressure Test, 165°C +/- 2°C	PASSES	IEC 60695-10-2
Metallized Haze Onset	175°C	SABIC Method

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