SABIC Innovative Plastics Lexan® 4404 PPC+PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

High heat polycarbonate copolymer, with HDT of 287F at 264 psi. FDA food contact compliant. Effective Jan 15th, 2008 this grade should not be used for medical applications which require biocompatibility. Alternative grade HPH4404This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-4404-PPCPC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D 792
Density	1.20 g/cc	0.0434 lb/in³	ISO 1183
Moisture Absorption at Equilibrium	0.35 %	0.35 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.16 % @Temperature 23.0 °C	0.16 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	on tensile bar; SABIC Method
	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.00 - 0.0020 cm/cm @Thickness 3.20 mm	0.00 - 0.0020 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238
	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm^3/10 min] Melt Volume Rate; ISO 1133
	29 g/10 min @Load 2.16 kg, Temperature 330 °C	29 g/10 min @Load 4.76 lb, Temperature 626 °F	[cm^3/10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	60.0 MPa	8700 psi	50 mm/min; ISO 527
	70.0 MPa	10200 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Elongation at Break	>= 50 %	>= 50 %	Type I, 50 mm/min; ASTM D 638
	85 %	85 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.10 GPa	305 ksi	5 mm/min; ASTM D 638
	2.15 GPa	312 ksi	1 mm/min; ISO 527
Flexural Yield Strength	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D 790
	100 MPa	14500 psi	2 mm/min; ISO 178
Flexural Modulus	2.20 GPa	319 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched	6.00 J/cm @Temperature 23.0 °C	11.2 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO)	11.0 kJ/m² @Temperature -30.0 °C	5.23 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	53.0 kJ/m² @Temperature 23.0 °C	25.2 ft-lb/in² @Temperature 73.4 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.30 J/cm² @Temperature -30.0 °C	6.19 ft-lb/in² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA

Mechanical Properties	Metric	English	Comments
	kJ/cm²	kJ/in²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	120 J @Temperature 23.0 °C	88.5 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	149 °C	300 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	148 °C @Thickness 3.20 mm	298 °F @Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	137 °C	279 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	142 °C @Thickness 3.20 mm	288 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	155 °C	311 °F	Rate B/50; ISO 306
	157 °C	315 °F	Rate B/120; ISO 306
	166 °C	331 °F	Rate B/50; ASTM D 1525

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

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