SABIC Innovative Plastics Lexan® 4401R PPC+PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

LEXAN 4401R is a high heat resistant poly(ester)carbonate injection molding resin.This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-4401R-PPCPC-Europe-Africa-Middle-East.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
	66.0 MPa	9570 psi	Type I, 50 mm/min; ASTM D 638

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
	5.40 J/cm²	25.7 ft-lb/in²	V-notch Edgew 80*10*3 sp=62mm;

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 179/1eA
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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