

SABIC Innovative Plastics Lexan® 1278R PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

LEXAN 1278R is a medium viscosity, 20% glass reinforced, flame retardant grade, offering a very high rigidity. It is especially designed for applications like industrial enclosures and fuse boxes requiring a low knock-out strength for moulded-in membranes. 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-1278R-PC-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.12 %	0.12 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.29 %	0.29 %	ISO 62
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage, Flow	0.0020 - 0.0050 cm/cm	0.0020 - 0.0050 in/in	on tensile bar; SABIC Method
Melt Flow	12 g/10 min	12 g/10 min	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	160 MPa	23200 psi	ISO 2039-1
Tensile Strength at Break	80.0 MPa	11600 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	5.20 GPa	754 ksi	1 mm/min; ISO 527
Flexural Strength	120 MPa	17400 psi	2 mm/min; ISO 178
Flexural Modulus	5.00 GPa	725 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.00 kJ/m ²	3.33 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	35.0 kJ/m ²	16.7 ft-lb/in ²	80*10*3; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	4.00 J/cm ²	19.0 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	4.00 J/cm ²	19.0 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.500 J/cm ²	2.38 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179/2C
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179/2C
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Taber Abrasion, mg/1000 Cycles	17	17	CS-17; SABIC Method
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	30.0 µm/m-°C	16.7 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	140 °C	284 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	134 °C	273 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	141 °C	286 °F	Rate B/50; ISO 306
	143 °C	289 °F	Rate B/120; ISO 306
	151 °C	304 °F	Rate A/50; ISO 306
UL RTI, Electrical	120 °C	248 °F	UL 746B
UL RTI, Mechanical with Impact	120 °C	248 °F	UL 746B

Thermal Properties <i>UL RTI, Mechanical without Impact</i>	Metric <i>120 °C</i>	English <i>248 °F</i>	Comments <i>UL 746B</i>
Flammability, UL94	V-1 @Thickness 1.50 mm	V-1 @Thickness 0.0591 in	UL 94
Oxygen Index	34 %	34 %	LOI; ISO 4589
Glow Wire Test	850 °C @Thickness 1.00 mm	1560 °F @Thickness 0.0394 in	Glow Wire Flammability Index; IEC 60695-2-12
	960 °C @Thickness 3.20 mm	1760 °F @Thickness 0.126 in	Glow Wire Flammability Index; IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	2.9 @Frequency 1.00e+6 Hz	2.9 @Frequency 1.00e+6 Hz	IEC 60250
	3.0 @Frequency 50.0 - 60.0 Hz	3.0 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	16.0 kV/mm @Thickness 3.20 mm	406 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
Dissipation Factor	0.0010 @Frequency 50.0 - 60.0 Hz	0.0010 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.010 @Frequency 1.00e+6 Hz	0.010 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	>= 125 V	>= 125 V	IEC 60112
	150 V	150 V	IEC 60112

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

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