

## SABIC Innovative Plastics Lexan® FXE174R PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

LEXAN FXE174R is a high flow visualFx Energy grade, suitable for steam sterilization and compliant with medical and food contact regulations. This material is especially developed for applications that require thin wall sections and high flow lengths. 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-FXE174R-PC-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FXE174R-PC-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 % @Temperature 23.0 °C	0.35 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
Melt Flow	26 g/10 min @Load 1.20 kg, Temperature 300 °C	26 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	95.0 MPa	13800 psi	ISO 2039-1
Tensile Strength at Break	50.0 MPa	7250 psi	50 mm/min; ISO 527
Tensile Strength, Yield	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	70 %	70 %	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)	11.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	5.23 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*3; ISO 180/1A
	60.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	28.6 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	80*10*3; ISO 180/1A

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	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
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.20 J/cm <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.00 J/cm <sup>2</sup>	28.6 ft-lb/in <sup>2</sup>	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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	
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)	121 °C	250 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	139 °C	282 °F	Rate B/50; ISO 306
	140 °C	284 °F	Rate B/120; ISO 306
Flammability, UL94	V-2	V-2	UL 94 by SABIC-IP
	@Thickness 1.10 mm	@Thickness 0.0433 in	
Oxygen Index	25 %	25 %	LOI; ISO 4589
Glow Wire Test	850 °C	1560 °F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

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	2.7	2.7	IEC 60250

Electrical Properties	@Frequency 1.00e+6 Metric Hz	@Frequency 1.00e+6 English Hz	Comments
	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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