

SABIC Innovative Plastics Lexan® FXM141R PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

FXM141R is a Lexan PC grade in Metallic or Pearlescent effect, which is part of the VisualFX family. These effects have been developed to meet increasing Aesthetic demands in the Marketplace. Color Package may affect properties, Application testing always recommended. This 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-FXM141R-PC.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/in ³	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
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10.8 g/10 min @Load 1.20 kg, Temperature 300 °C	10.8 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238
	11 g/10 min @Load 1.20 kg, Temperature 300 °C	11 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /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	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
	55.0 MPa	7980 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D 638
	63.0 MPa	9140 psi	50 mm/min; ISO 527

Mechanical Properties	50 % Metric	50 % English	50 mm/min; ISO 527 Comments
	90 %	90 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.2 %	6.2 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.34 GPa	339 ksi	5 mm/min; ASTM D 638
	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	94.0 MPa	13600 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	2.14 J/cm @Temperature 23.0 °C	4.01 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)	8.00 kJ/m ² @Temperature -30.0 °C	3.81 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	10.0 kJ/m ² @Temperature 23.0 °C	4.76 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*4; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.20 J/cm ² @Temperature 23.0 °C	5.71 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.30 J/cm ²	6.19 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA

Mechanical Properties	@Temperature -30.0 °C Metric	@Temperature -22.0 °F English	Comments
Impact Test	54.0 J	39.8 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.7 µm/m-°C	38.2 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
CTE, linear, Transverse to Flow	69.6 µm/m-°C	38.7 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	69.5 µm/m-°C	38.6 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
Deflection Temperature at 0.46 MPa (66 psi)	70.6 µm/m-°C	39.2 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)	136 °C	277 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	138 °C	280 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	127 °C	261 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306
	154 °C	309 °F	Rate B/50; ASTM D 1525
UL RTI, Electrical	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical without Impact	80.0 °C	176 °F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.700 mm	@Thickness 0.0276 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	175 - 250 V	175 - 250 V	PLC code 3; UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	PLC code 2; UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	surface, PLC code 1; UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	PLC code 2; UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2
UV-light, water exposure/immersion	F2	UL 746C

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