

SABIC Innovative Plastics Lexan® FST9705 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

High viscosity Proprietary Polycarbonate Ester, OSU 55/55 compliant, low smoke, flame retardant resin

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FST9705-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.34 g/cc	1.34 g/cc	ASTM D792
Density	1.34 g/cc	0.0484 lb/in ³	ISO 1183
Moisture Absorption	0.110 %	0.110 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.28 %	0.28 %	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.0 g/10 min @Load 1.20 kg, Temperature 300 °C	5.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	4.0 g/10 min @Load 1.20 kg, Temperature 300 °C	4.0 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133
	16 g/10 min @Load 5.00 kg, Temperature 300 °C	16 g/10 min @Load 11.0 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	73.0 MPa	10600 psi	Type I, 50 mm/min; ASTM D638
	76.0 MPa	11000 psi	50 mm/min; ISO 527
Tensile Strength, Yield	72.0 MPa	10400 psi	Type I, 50 mm/min; ASTM D638
	74.0 MPa	10700 psi	50 mm/min; ISO 527
Elongation at Break	102 %	102 %	Type I, 50 mm/min; ASTM D638
	109 %	109 %	50 mm/min; ISO 527
Elongation at Yield	6.7 %	6.7 %	Type I, 50 mm/min; ASTM D638
	6.8 %	6.8 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	2.61 GPa	379 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	107 MPa	15500 psi	2 mm/min; ISO 178
	115 MPa	16700 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.32 GPa	336 ksi	2 mm/min; ISO 178
	2.50 GPa	363 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	1.94 J/cm	3.63 ft-lb/in	ASTM D256
	1.12 J/cm	2.10 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	16.0 kJ/m ²	7.61 ft-lb/in ²	80*10*4; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	2.40 J/cm ²	11.4 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	80.0 J	59.0 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	57.0 µm/m-°C	31.7 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	57.0 µm/m-°C	31.7 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Hot Ball Pressure Test	<= 125 °C	<= 257 °F	IEC 60695-10-2
Deflection Temperature at 1.8 MPa (264 psi)	117 °C	243 °F	Flatw 80*10*4 sp=64mm; ISO 75/ Af

Thermal Properties	Metric	English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	137 °C	279 °F	Rate B/50; ISO 306
	139 °C	282 °F	Rate B/120; ISO 306
	140 °C	284 °F	Rate B/50; ASTM D1525

Descriptive Properties	Value	Comments
NBS Smoke Density, Flaming, Dmax	<25	ASTM E 662
OSU total heat release (2 minute test)	<55kW-min/m^2	FAR 25.853
OSU peak heat release rate (5 minute test)	<55kW/m^2	FAR 25.853
Vertical Burn a (60s) passes at	2.4sec	FAR 25.853
Vertical Burn b (12s) passes at	0.5sec	FAR 25.853

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