

## SABIC Innovative Plastics Lexan® SD9705 PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

High visocisty PC Copolymer, low smoke, flame retardant 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-SD9705-PC-Copolymer-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-SD9705-PC-Copolymer-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.34 g/cc	1.34 g/cc	ASTM D 792
Density	1.34 g/cc	0.0484 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.11 %	0.11 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.28 % @Temperature 23.0 °C	0.28 % @Temperature 73.4 °F	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	4.0 g/10 min @Load 1.20 kg, Temperature 300 °C	4.0 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133
	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 D 1238
	16 g/10 min @Load 5.00 kg, Temperature 300 °C	16 g/10 min @Load 11.0 lb, Temperature 572 °F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	73.0 MPa	10600 psi	Type I, 50 mm/min; ASTM D 638
	76.0 MPa	11000 psi	50 mm/min; ISO 527
Tensile Strength, Yield	72.0 MPa	10400 psi	Type I, 50 mm/min; ASTM D 638
	74.0 MPa	10700 psi	50 mm/min; ISO 527
Elongation at Break	102 %	102 %	Type I, 50 mm/min; ASTM D 638
	109 %	109 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Elongation at Yield	6.8 %	6.8 %	Type 1, 50 mm/min; ASTM D 638
Tensile Modulus	2.50 GPa	363 ksi	1 mm/min; ISO 527
	2.61 GPa	379 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	107 MPa	15500 psi	2 mm/min; ISO 178
	115 MPa	16700 psi	1.3 mm/min, 50 mm span; ASTM D 790
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 D 790
Poissons Ratio	0.40	0.40	ASTM D 638
Shear Modulus	0.893 - 0.932 GPa	130 - 135 ksi	Calculated
Izod Impact, Notched	1.12 J/cm	2.10 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.94 J/cm	3.63 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	17.0 kJ/m <sup>2</sup>	8.09 ft-lb/in <sup>2</sup>	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	@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	5.00 J/cm <sup>2</sup>	23.8 ft-lb/in <sup>2</sup>	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.00 J/cm <sup>2</sup>	23.8 ft-lb/in <sup>2</sup>	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.00 J/cm <sup>2</sup>	4.76 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	
	1.70 J/cm <sup>2</sup>	8.09 ft-lb/in <sup>2</sup>	V-notch Edgew 80*10*3 sp=62mm;

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 179/1eA Comments
	2.40 J/cm <sup>2</sup> @Temperature 23.0 °C	11.4 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	80.0 J @Temperature 23.0 °C	59.0 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	5.70 µm/m-°C @Temperature -40.0 - 40.0 °C	3.17 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	5.70 µm/m-°C @Temperature -40.0 - 40.0 °C	3.17 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	6.00 µm/m-°C @Temperature -40.0 - 40.0 °C	3.33 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	6.00 µm/m-°C @Temperature -40.0 - 40.0 °C	3.33 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
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
	121 °C @Thickness 3.20 mm	250 °F @Thickness 0.126 in	unannealed; ASTM D 648
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 D 1525
NBS Smoke Density	<= 25	<= 25	Flaming, Dmax; ASTM E 662

Descriptive Properties	Value	Comments
OSU total heat release (2 minute test), kW-min/m <sup>2</sup>	<55	FAR 25.853
OSU peak heat release rate (5 minute test), kW/m <sup>2</sup>	<55	FAR 25.853
Vertical Burn a (60s) passes at, sec	2.4	FAR 25.853

Vertical Burn h (12g) passes at, sec  
Descriptive Properties

0.5  
Value

FAR 25\_853  
Comments

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