

SABIC Innovative Plastics Lexan® DMX1214 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® DMX1214 resin is an improved flow, transparent polycarbonate resin with improved scratch resistance. 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-DMX1214-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D 792
Density	1.17 g/cc	0.0423 lb/in ³	ISO 1183
	1.17 g/cc	0.0423 lb/in ³	ASTM D 792
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D 570
Moisture Absorption at Equilibrium	0.14 %	0.14 %	23°C / 50% RH; ISO 62
	0.14 %	0.14 %	50% RH; ASTM D 570
	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	ASTM D 570
	0.050 % @Time 86400 sec	0.050 % @Time 24.0 hour	50% RH; ASTM D 570
Water Absorption at Saturation	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0080 cm/cm @Thickness 3.20 mm	0.0050 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	16 g/10 min @Load 1.20 kg, Temperature 300 °C	16 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	17.1 g/10 min @Load 1.20 kg, Temperature 300 °C	17.1 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	62.0 MPa	8990 psi	50 mm/min; ISO 527

Mechanical Properties	64.0 MPa Metric	9280 psi English	Type I, 50 mm/min; ASTM D 638 Comments
Tensile Strength, Yield	77.0 MPa	11200 psi	Type I, 50 mm/min; ASTM D 638
	77.0 MPa	11200 psi	50 mm/min; ISO 527
Elongation at Break	60 %	60 %	50 mm/min; ISO 527
	92 %	92 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638
	8.0 %	8.0 %	50 mm/min; ISO 527
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527
	2.83 GPa	410 ksi	50 mm/min; ASTM D 638
Flexural Yield Strength	101 MPa	14600 psi	2 mm/min; ISO 178
	116 MPa	16800 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.31 GPa	335 ksi	2 mm/min; ISO 178
	2.63 GPa	381 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.320 J/cm	0.599 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.370 J/cm	0.693 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ASTM D 4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	4.00 kJ/m ²	1.90 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.00 kJ/m ²	2.86 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	93.0 kJ/m ²	44.3 ft-lb/in ²	80*10*3; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	80*10*3; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	13.3 J/cm ²	63.3 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	EdgeW 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.300 J/cm ²	1.43 ft-lb/in ²	V-notch EdgeW 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.300 J/cm ²	1.43 ft-lb/in ²	V-notch EdgeW 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	68.0 J	50.2 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	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
	60.0 µm/m-°C	33.3 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)	134 °C	273 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	133 °C	271 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	121 °C	250 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	121 °C	250 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	138 °C	280 °F	Rate B/50; ASTM D 1525
	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306
Flammability, UL94	HB	HB	UL 94

Thermal Properties	@Thickness 0.750 mm Metric	@Thickness 0.0295 in English	Comments
Optical Properties	Metric	English	Comments
Refractive Index	1.584	1.584	ASTM D 542
	1.584	1.584	ISO 489
Haze	<= 0.80 % @Thickness 2.54 mm	<= 0.80 % @Thickness 0.100 in	ASTM D 1003
Transmission, Visible	88 % @Thickness 2.54 mm	88 % @Thickness 0.100 in	ASTM D 1003

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	Pass	IEC 60695-10-2
Erichson scratch depth, 6N, micrometer	14	SABIC Method
Pencil Hardness test, 1kgf	F	ASTM D 3363

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