

SABIC Innovative Plastics Lexan® DMX1214 PC Copolymer (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

This product will be phased out per January 2015 -- Lexan® DMX1214 resin is an improved flow, transparent copolycarbonate resin with improved scratch resistance.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-DMX1214-PC-Copolymer-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.17 g/cc	0.0423 lb/in ³	ASTM D792
	1.17 g/cc	0.0423 lb/in ³	ISO 1183
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.0500 %	0.0500 %	50% RH, 24 hrs; ASTM D570
	0.140 %	0.140 %	23°C / 50% RH; ISO 62
Moisture Absorption at Equilibrium	0.14 %	0.14 %	50% RH; ASTM D570
	0.30 %	0.30 %	ASTM D570
Water Absorption at Saturation	0.30 %	0.30 %	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	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 D1238
Melt Index of Compound	16 g/10 min @Load 1.20 kg, Temperature 300 °C	16 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	62.0 MPa	8990 psi	50 mm/min; ISO 527
	64.0 MPa	9280 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	77.0 MPa	11200 psi	50 mm/min; ISO 527
	77.0 MPa	11200 psi	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Elongation at Break	92 %	92 %	50 mm/min; ISO 527
			Type I, 50 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D638
	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 D638
Flexural Yield Strength	101 MPa	14600 psi	2 mm/min; ISO 178
	116 MPa	16800 psi	1.3 mm/min, 50 mm span; ASTM D790
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 D790
Izod Impact, Notched	0.370 J/cm	0.693 ft-lb/in	ASTM D256
	0.320 J/cm	0.599 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	80*10*3; ISO 180/1A
	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	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	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	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	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	
Charpy Impact, Notched	0.300 J/cm ²	1.43 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	0.300 J/cm ²	1.43 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	68.0 J	50.2 ft-lb	ASTM D3763

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	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	
CTE, linear, Parallel to Flow	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	
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	
Deflection Temperature at 1.8 MPa (264 psi)	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
	121 °C	250 °F	
Deflection Temperature at 1.8 MPa (264 psi)	121 °C	250 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	138 °C	280 °F	Rate B/50; ASTM D1525
	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.584	1.584	ASTM D542
	1.584	1.584	ISO 489
Haze	<= 0.80 %	<= 0.80 %	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	88 %	88 %	2.54 mm; ASTM D1003

Optical Properties Descriptive Properties	Metric	English Value	Comments Comments
Ball Pressure Test, 125°C +/- 2°C		Pass	IEC 60695-10-2
Erichson scratch depth, 6N		14micrometer	SABIC Method
Pencil Hardness test, 1kgf		F	ASTM D3363
Specific Volume		0.85cm ³ /g	ASTM D792

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