SABIC Innovative Plastics Lexan® DMX3415M PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan* DMX3415M is a co-polycarbonate resin with improved scratch and abrasion resistance compared to standard polycarbonate.

Lexan* DMX3415M is available in transparent colors.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-DMX3415M-PC-Copolymer-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.17 g/cc	0.0423 lb/in³	ASTM D792
	1.17 g/cc	0.0423 lb/in³	ISO 1183
Moisture Absorption	0.130 %	0.130 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.27 %	0.27 %	ISO 62
Melt Flow	17.9 g/10 min @Load 1.20 kg, Temperature 300 °C	17.9 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	60.0 MPa	8700 psi	Type I, 50 mm/min; ASTM D638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Tensile Strength, Yield	80.0 MPa	11600 psi	Type I, 50 mm/min; ASTM D638
	80.0 MPa	11600 psi	50 mm/min; ISO 527
Elongation at Break	27 %	27 %	50 mm/min; ISO 527
	36 %	36 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D638
	7.0 %	7.0 %	50 mm/min; ISO 527
Tensile Modulus	2.45 GPa	355 ksi	1 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	2.90 GPa	421 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	108 MPa	15700 psi	2 mm/min; ISO 178
	120 MPa	17400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.45 GPa	355 ksi	2 mm/min; ISO 178
	2.60 GPa	377 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.300 J/cm	0.562 ft-lb/in	ASTM D256
	0.300 J/cm @Temperature -30.0 °C	0.562 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	5.00 kJ/m²	2.38 ft-lb/in²	80*10*3; ISO 180/1A
	4.00 kJ/m² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	45.0 kJ/m² @Temperature -30.0 °C	21.4 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	4.70 J/cm² @Temperature -30.0 °C	22.4 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.300 J/cm²	1.43 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	0.300 J/cm² @Temperature -30.0 °C	1.43 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	30.0 J @Temperature 23.0 °C	22.1 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C @Temperature 23.0 - 80.0 °C	38.9 µin/in-°F @Temperature 73.4 - 176 °F	ASTM E 831
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ASTM E 831

Thermal Properties	Metric	English	Comments
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Deflection Temperature at 0.46 MPa (66 psi)	126 °C	259 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	129 °C @Thickness 3.20 mm	264 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	114 °C	237 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	115 °C @Thickness 3.20 mm	239 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	134 °C	273 °F	Rate B/50; ISO 306
	136 °C	277 °F	Rate B/120; ISO 306
	139 °C	282 °F	Rate B/50; ASTM D1525

Optical Properties	Metric	English	Comments
Refractive Index	1.584	1.584	ASTM D542
	1.584	1.584	ISO 489
Haze	<= 1.0 % @Thickness 2.54 mm	<= 1.0 % @Thickness 0.100 in	ASTM D1003
Transmission, Visible	88 %	88 %	2.54 mm; ASTM D1003

Descriptive Properties	Value	Comments
Pencil Hardness test, 1kgf	H	ASTM D3363

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