

Covestro Makrolon® LED2045 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Molded

Material Notes:

ISO 7391-PC,MRT,(,,)-24-9Global gradeMVR (250 °C/2.16 kg) 16.5 cm³/10minLight guidesPC with highest transmissionLow viscosityEasy releaseInjection molding - Melt temperature 280 - 320 °CAvailable in natural color onlyPreprocessingMax. Water content

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Makrolon-LED2045-Polycarbonate.php

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
	1.02 g/cc	0.0368 lb/in ³	Melt
	@Temperature 280 °C	@Temperature 536 °F	
Water Absorption	0.30 %	0.30 %	Similar to ISO 62
Moisture Absorption at Equilibrium	0.12 %	0.12 %	Similar to ISO 62
Linear Mold Shrinkage, Flow	0.0060 cm/cm	0.0060 in/in	ISO 294-4,2577
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	ISO 294-4,2577
Melt Flow	17 g/10 min	17 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 250 °C	@Load 4.76 lb, Temperature 482 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	63.0 MPa	9140 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	Nominal; ISO 527-1/-2
Elongation at Yield	5.9 %	5.9 %	ISO 527-1/-2
Tensile Modulus	2.35 GPa	341 ksi	ISO 527-1/-2
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Impact	4700	4700	Puncture - maximum force (N); ISO 6603-2
	5700	5700	Puncture - maximum force (N); ISO 6603-2
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Puncture Energy	50.0 J	36.9 ft-lb	ISO 6603-2

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 6603-2

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	65.0 µm/m-°C	36.1 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	65.0 µm/m-°C	36.1 µin/in-°F	ISO 11359-1/-2
Specific Heat Capacity	1.70 J/g-°C	0.406 BTU/lb-°F	Melt
Thermal Conductivity	0.173 W/m-K	1.20 BTU-in/hr-ft²-°F	Melt
Deflection Temperature at 0.46 MPa (66 psi)	137 °C	279 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	124 °C	255 °F	ISO 75-1/-2
Vicat Softening Point	145 °C	293 °F	50°C/h 50N; ISO 306
Glass Transition Temp, Tg	145 °C	293 °F	ISO 11357-1/-2
Flammability, UL94	V-2 @Thickness 0.700 mm	V-2 @Thickness 0.0276 in	IEC 60695-11-10
Oxygen Index	27 %	27 %	ISO 4589-1/-2

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	ISO 13468-1, -2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	IEC 60093
Dielectric Constant	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	IEC 60250
	3.1 @Frequency 100 Hz	3.1 @Frequency 100 Hz	IEC 60250
Dielectric Strength	34.0 kV/mm	864 kV/in	IEC 60243-1
Dissipation Factor	0.00050 @Frequency 100 Hz	0.00050 @Frequency 100 Hz	IEC 60250

Electrical Properties	0.0090 Metric	0.0090 English	Comments IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	225 V	225 V	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	280 °C	536 °F	Injection Molding; ISO 294
	280 - 320 °C	536 - 608 °F	
Mold Temperature	80.0 °C	176 °F	Injection Molding; ISO 10724
	80.0 - 120 °C	176 - 248 °F	
Ejection Temperature	130 °C	266 °F	
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 294

Descriptive Properties	Value	Comments
Availability	Asia Pacific	
	Europe	
	India	
	Near East/Africa	
	North America	
	South and Central America	
Eff. thermal diffusivity (m²/s)	1E-07	
Feature	Release agent	
Form	Pellets	
Process	Injection Molding	

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