Covestro Makrolon® 3107 Polycarbonate

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

Material Notes:

ISO 7391-PC,MLR,(„)-09-9Global gradeMVR (300 °C/1.2 kg) 6.0 cm3/10 minGeneral purposeHigh viscosityUV stabilizedEasy releaseInjection molding - Melt temperature 280 - 320 °CAvailable in transparenttranslucent and opaque colorsPreprocessingMax. Water content

Order this product through the following link:
http://www.lookpolymers.com/polymer_Covestro-Makrolon-3107-Polycarbonate.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in³	ISO 1183
	1.02 g/cc @Temperature 300 °C	0.0368 lb/in³ @Temperature 572 °F	Melt
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	0.0070 cm/cm	0.0070 in/in	ISO 294-4,2577
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ISO 294-4,2577
Melt Flow	6.1 g/10 min @Load 1.20 kg, Temperature 300 °C	6.1 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	66.0 MPa	9570 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	Nominal; ISO 527-1/-2
Elongation at Yield	6.2 %	6.2 %	ISO 527-1/-2
Tensile Modulus	2.40 GPa	348 ksi	ISO 527-1/-2
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179/1eU
Impact	5600	5600	Puncture - maximum force (N); ISO 6603-2
	6500 @Temperature -30.0 °C	6500 @Temperature -22.0 °F	Puncture - maximum force (N); ISO 6603-2

Mechanical Properties	Metric	English	Comments
	70.0 J @Temperature -30.0 °C	51.6 ft-lb @Temperature -22.0 °F	ISO 6603-2
Tensile Creep Modulus, 1 hour	2200 MPa	319000 psi	ISO 899-1
Tensile Creep Modulus, 1000 hours	1900 MPa	276000 psi	ISO 899-1

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)	125 °C	257 °F	ISO 75-1/-2
Vicat Softening Point	146 °C	295 °F	50°C/h 50N; ISO 306
Glass Transition Temp, Tg	145 °C	293 °F	ISO 11357-1/-2
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	IEC 60695-11-10
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	IEC 60695-11-10
Oxygen Index	27 %	27 %	ISO 4589-1/-2

Optical Properties	Metric	English	Comments
Transmission, Visible	89 %	89 %	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

Electrical Properties	Metric	English	Comments
	3.1 @Frequency 100 Hz	3.1 @Frequency 100 Hz	
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
	0.0095 @Frequency 1.00e+6 Hz	0.0095 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	250 V	250 V	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	280 - 320 °C	536 - 608 °F	
	300 °C	572 °F	Injection Molding; ISO 294
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	Light stabilised or stable to light	
	Release agent	
	U.V. stabilised or stable to weather	
Form	Pellets	

Descriptive Properties	Value	Comments
Process	Blow Molding	
	Injection Molding	
	Other Extrusion	

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