

Covestro Makrolon® DP1-1821* Polycarbonate

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

Material Notes:

Developmental product MVR (300 °C/1.2 kg) 6.0 cm³/10 min High viscosity UV stabilized Easy release Injection molding Available in colorless transparent only Preprocessing Max. Water content

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Makrolon-DP1-1821-Polycarbonate.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
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	7.0 g/10 min @Load 1.20 kg, Temperature 300 °C	7.0 g/10 min @Load 2.65 lb, Temperature 572 °F	estimated from MVR using room temperature density; 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	5500	5500	Puncture - maximum force (N); ISO 6603-2
	6500 @Temperature -30.0 °C	6500 @Temperature -22.0 °F	Puncture - maximum force (N); ISO 6603-2
Puncture Energy	60.0 J	44.3 ft-lb	ISO 6603-2
	70.0 J @Temperature -30.0 °C	51.6 ft-lb @Temperature -22.0 °F	ISO 6603-2

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	65.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	36.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-1/-2
CTE, linear, Transverse to Flow	65.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	36.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-1/-2
Deflection Temperature at 0.46 MPa (66 psi)	137 $^\circ\text{C}$	279 $^\circ\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	125 $^\circ\text{C}$	257 $^\circ\text{F}$	ISO 75-1/-2
Vicat Softening Point	146 $^\circ\text{C}$	295 $^\circ\text{F}$	50 $^\circ\text{C}/\text{h}$ 50N; ISO 306
Glass Transition Temp, Tg	145 $^\circ\text{C}$	293 $^\circ\text{F}$	ISO 11357-1/-2
Oxygen Index	27 %	27 %	ISO 4589-1/-2

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+13$ ohm-cm	$\geq 1.00\text{e}+13$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+15$ ohm	$\geq 1.00\text{e}+15$ ohm	IEC 60093
Dielectric Constant	3.0	3.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	3.1	3.1	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	34.0 kV/mm	864 kV/in	IEC 60243-1
Dissipation Factor	0.00050	0.00050	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	0.0095	0.0095	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	250 V	250 V	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	300 $^\circ\text{C}$	572 $^\circ\text{F}$	Injection Molding; ISO 294

Mold Temperature Processing Properties	80.0 °C Metric	176 °F English	Injection Molding; ISO 10724 Comments
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 294

Descriptive Properties	Value	Comments
Availability	Asia Pacific	
	India	
	North America	
Feature	Light stabilised or stable to light	
	Release agent	
	U.V. stabilised or stable to weather	
Form	Pellets	
Process	Injection Molding	

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