

Covestro Makrolon® DP1-1825* Polycarbonate, Impact Grade

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Impact Modified

Material Notes:

Developmental product ISO 7391-PC,MP,(,)-09-9MVR (300 °C/1.2 kg) 6.0 cm³/10 min Impact modified High viscosity Injection molding -
Melt temperature 280 - 320 °C Available in opaque colors only Preprocessing Max. Water content

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Makrolon-DP1-1825-Polycarbonate-Impact-Grade.php

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
	1.02 g/cc @Temperature 300 °C	0.0368 lb/in ³ @Temperature 572 °F	Melt
Water Absorption	0.40 %	0.40 %	Similar to ISO 62
Moisture Absorption at Equilibrium	0.12 %	0.12 %	Similar to ISO 62
Melt Flow	6.1 g/10 min	6.1 g/10 min	ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	56.0 MPa	8120 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	Nominal; ISO 527-1/-2
Elongation at Yield	6.0 %	6.0 %	ISO 527-1/-2
Tensile Modulus	2.20 GPa	319 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	5200	5200	Puncture - maximum force (N); ISO 6603-2
	6100 @Temperature -30.0 °C	6100 @Temperature -22.0 °F	Puncture - maximum force (N); ISO 6603-2
Puncture Energy	55.0 J	40.6 ft-lb	ISO 6603-2
	60.0 J @Temperature -30.0 °C	44.3 ft-lb @Temperature -22.0 °F	ISO 6603-2

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-1/-2
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-1/-2
Specific Heat Capacity	1.70 J/g $\cdot^\circ\text{C}$	0.406 BTU/lb $\cdot^\circ\text{F}$	Melt
Thermal Conductivity	0.173 W/m-K	1.20 BTU-in/hr-ft $^2\cdot^\circ\text{F}$	Melt
Deflection Temperature at 0.46 MPa (66 psi)	138 $^\circ\text{C}$	280 $^\circ\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	124 $^\circ\text{C}$	255 $^\circ\text{F}$	ISO 75-1/-2
Vicat Softening Point	146 $^\circ\text{C}$	295 $^\circ\text{F}$	50 $^\circ\text{C}/\text{h}$ 50N; ISO 306
Oxygen Index	30 %	30 %	ISO 4589-1/-2

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	3.1	3.1	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	3.2	3.2	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.0014	0.0014	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.012	0.012	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 - 320 $^\circ\text{C}$	536 - 608 $^\circ\text{F}$	
	300 $^\circ\text{C}$	572 $^\circ\text{F}$	Injection Molding; ISO 294
Mold Temperature	80.0 $^\circ\text{C}$	176 $^\circ\text{F}$	Injection Molding; ISO 10724

Processing Properties	80.0 - 120 °C Metric	176 - 248 °F English	Comments
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	
	South and Central America	
Eff. thermal diffusivity (m²/s)	1E-07	
Form	Pellets	
Process	Injection Molding	

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