

Covestro Apec® DP1-9389/5 Polycarbonate

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

Material Notes:

Developmental product easy flowing easy to demold softening temperature (VST/B 120)=218 °C Preprocessing Max. Water content

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Apec-DP1-93895-Polycarbonate.php

Physical Properties	Metric	English	Comments
Density	1.12 g/cc	0.0405 lb/in ³	ISO 1183
	0.960 g/cc	0.0347 lb/in ³	Melt
	@Temperature 330 °C	@Temperature 626 °F	
Water Absorption	0.30 %	0.30 %	Similar to ISO 62
Moisture Absorption at Equilibrium	0.12 %	0.12 %	Similar to ISO 62
Melt Flow	4.8 g/10 min	4.8 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 330 °C	@Load 4.76 lb, Temperature 626 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	78.0 MPa	11300 psi	ISO 527-1/-2
Elongation at Break	50 %	50 %	Nominal; ISO 527-1/-2
Elongation at Yield	6.9 %	6.9 %	ISO 527-1/-2
Tensile Modulus	2.40 GPa	348 ksi	ISO 527-1/-2
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	25.0 J/cm ²	119 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Impact	5000	5000	Puncture - maximum force (N); ISO 6603-2
	5200	5200	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
	40.0 J	29.5 ft-lb	ISO 6603-2
	@Temperature -30.0 °C	@Temperature -22.0 °F	

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- $^{\circ}\text{C}$	0.406 BTU/lb- $^{\circ}\text{F}$	Melt
Thermal Conductivity	0.163 W/m-K	1.13 BTU-in/hr-ft ² - $^{\circ}\text{F}$	Melt
Deflection Temperature at 0.46 MPa (66 psi)	206 $^{\circ}\text{C}$	403 $^{\circ}\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	187 $^{\circ}\text{C}$	369 $^{\circ}\text{F}$	ISO 75-1/-2
Oxygen Index	25 %	25 %	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	3.0	3.0	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	35.0 kV/mm	889 kV/in	IEC 60243-1
	0.00070	0.00070	
Dissipation Factor	@Frequency 100 Hz	@Frequency 100 Hz	IEC 60250
	0.0080	0.0080	
Comparative Tracking Index	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	600 V	600 V	

Processing Properties	Metric	English	Comments
Melt Temperature	330 $^{\circ}\text{C}$	626 $^{\circ}\text{F}$	Injection Molding; ISO 294
	330 - 340 $^{\circ}\text{C}$	626 - 644 $^{\circ}\text{F}$	
Mold Temperature	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	Injection Molding; ISO 10724
	130 - 160 $^{\circ}\text{C}$	266 - 320 $^{\circ}\text{F}$	

Ejection Temperature Processing Properties	200 °C Metric	392 °F English	Comments
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 294

Descriptive Properties	Value	Comments
Availability	Europe	
	Near East/Africa	
	South and Central America	
Eff. thermal diffusivity (m ² /s)	1E-07	
Process	Injection Molding	

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