

## Covestro Apec® 1897 Polycarbonate

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

### Material Notes:

Easy flowingeasy to demoldUV-stabilizedsoftening temperature (VST/B 120)=182 °CPreprocessingMax. Water content

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Covestro-Apec-1897-Polycarbonate.php](http://www.lookpolymers.com/polymer_Covestro-Apec-1897-Polycarbonate.php)

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in <sup>3</sup>	ISO 1183
	0.980 g/cc	0.0354 lb/in <sup>3</sup>	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	18 g/10 min	18 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	74.0 MPa	10700 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	Nominal; ISO 527-1/-2
Elongation at Yield	6.8 %	6.8 %	ISO 527-1/-2
Tensile Modulus	2.40 GPa	348 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	5200	5200	Puncture - maximum force (N); ISO 6603-2
	6000	6000	Puncture - maximum force (N); ISO 6603-2
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Puncture Energy	55.0 J	40.6 ft-lb	ISO 6603-2
	60.0 J	44.3 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	0.167 W/m-K	1.16 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	Melt
Deflection Temperature at 0.46 MPa (66 psi)	172 $^{\circ}\text{C}$	342 $^{\circ}\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	157 $^{\circ}\text{C}$	315 $^{\circ}\text{F}$	ISO 75-1/-2
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	IEC 60695-11-10
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 @Frequency 100 Hz	3.0 @Frequency 100 Hz	IEC 60250
	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	IEC 60250
Dielectric Strength	35.0 kV/mm	889 kV/in	IEC 60243-1
Dissipation Factor	0.00070 @Frequency 100 Hz	0.00070 @Frequency 100 Hz	IEC 60250
	0.0080 @Frequency 1.00e+6 Hz	0.0080 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

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

Processing Properties	Metric	English	Comments
	120 - 140 °C	248 - 284 °F	
Ejection Temperature	163 °C	325 °F	
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 294

Descriptive Properties	Value	Comments
Availability	Europe	
	Near East/Africa	
	North America	
	South and Central America	
Eff. thermal diffusivity (m <sup>2</sup> /s)	1E-07	
Feature	Release agent	
	U.V. stabilised or stable to weather	
Form	Pellets	
Process	Injection Molding	

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