Covestro Apec® 1700 Polycarbonate (discontinued **)

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

Material Notes:

Key Features:UnfilledSuitable processing methods:Injection moldingFilm extrusionProfile extrusionSheet extrusionCoatingBlow moldingCalanderingTransfer moldingThermoformingInformation provided by Bayer Polymers.As of 1 September 2015, Bayer MaterialScience was separated from Bayer AG and has officially adopted its new name – Covestro. This product was discontinued prior to the separation.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Covestro-Apec-1700-Polycarbonate-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	0.995 g/cc	0.0359 lb/in³	Melt
	1.17 g/cc	0.0423 lb/in³	
Water Absorption	0.40 %	0.40 %	
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C/50% R.H.
Melt Flow	15 g/10 min @Load 2.16 kg, Temperature 330 °C	15 g/10 min @Load 4.76 lb, Temperature 626 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	65.0 MPa	9430 psi	
Elongation at Break	>= 50 %	>= 50 %	Nominal
Elongation at Yield	7.0 %	7.0 %	
Tensile Modulus	2.30 GPa	334 ksi	
Charpy Impact Unnotched	NB	NB	
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	
Charpy Impact, Notched	0.900 J/cm²	4.28 ft-lb/in²	
	0.900 J/cm² @Temperature -30.0 °C	4.28 ft-lb/in² @Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
	70.0 µm/m-°C	38.9 µin/in-°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	@Temperature 20.0 °C	@Temperature 68.0 °F	
CTE, linear, Transverse to Flow	70.0 µm/m-°C @Temperature 20.0 °C	38.9 µin/in-°F @Temperature 68.0 °F	
Specific Heat Capacity	1.70 J/g-°C	0.406 BTU/lb-°F	Melt
Thermal Conductivity	0.169 W/m-K	1.17 BTU-in/hr-ft²-°F	Melt
Deflection Temperature at 0.46 MPa (66 psi)	162 °C	324 °F	
Deflection Temperature at 1.8 MPa (264 psi)	150 °C	302 °F	
Vicat Softening Point	170 °C	338 °F	50°C/h 50N
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	UL Recognized
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	UL Recognized
Oxygen Index	24 %	24 %	

Optical Properties	Metric	English	Comments
Transmission, Visible	80 %	80 %	Manufacturer states transparent but does not quantify

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	
Dielectric Constant	2.9 @Frequency 100 Hz	2.9 @Frequency 100 Hz	
	2.9 @Frequency 1e+6 Hz	2.9 @Frequency 1e+6 Hz	
Dielectric Strength	35.0 kV/mm	889 kV/in	
Dissipation Factor	0.0013 @Frequency 100 Hz	0.0013 @Frequency 100 Hz	
	0.0081 @Frequency 1e+6 Hz	0.0081 @Frequency 1e+6 Hz	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	

Processing Properties	Metric	English	Comments
Melt Temperature	330 °C	626 °F	Injection Molding
Mold Temperature	100 °C	212 °F	Injection Molding
Ejection Temperature	155 °C	311 °F	
Injection Velocity	200 mm/sec	7.87 in/sec	

Descriptive Properties	Value	Comments
Effective thermal diffusivity	0.1E-6 m²/s	Melt

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