

## Covestro Apec® DP 1-9389 Polycarbonate (discontinued \*\*)

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

### Material Notes:

Key Features: Unfilled Suitable processing methods: Injection molding Thermoforming Information provided by Bayer Polymers. As of 1 September 2015, Bayer Material Science 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-DP-1-9389-Polycarbonate-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Covestro-Apec-DP-1-9389-Polycarbonate-nbspdiscontinued-.php)

Physical Properties	Metric	English	Comments
Density	0.960 g/cc	0.0347 lb/in <sup>3</sup>	Melt
	1.12 g/cc	0.0405 lb/in <sup>3</sup>	
Water Absorption	0.40 %	0.40 %	
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C/50% R.H.
Melt Flow	4.0 g/10 min	4.0 g/10 min	
	@Load 2.16 kg, Temperature 330 °C	@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	NB	
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.600 J/cm <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	
	0.600 J/cm <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C	38.9 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties	Metric $m/m-^{\circ}C$	English $in/in-^{\circ}F$	Comments
CTE, linear, Transverse to Flow	@Temperature 20.0 $^{\circ}C$	@Temperature 68.0 $^{\circ}F$	
Specific Heat Capacity	1.70 J/g- $^{\circ}C$	0.406 BTU/lb- $^{\circ}F$	Melt
Thermal Conductivity	0.163 W/m-K	1.13 BTU-in/hr-ft <sup>2</sup> - $^{\circ}F$	Melt
Deflection Temperature at 0.46 MPa (66 psi)	208 $^{\circ}C$	406 $^{\circ}F$	
Deflection Temperature at 1.8 MPa (264 psi)	185 $^{\circ}C$	365 $^{\circ}F$	
Vicat Softening Point	218 $^{\circ}C$	424 $^{\circ}F$	50 $^{\circ}C$ /h 50N
Flammability, UL94	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	
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	$\geq 1.00e+13$ ohm-cm	$\geq 1.00e+13$ ohm-cm	
Surface Resistance	$\geq 1.00e+15$ ohm	$\geq 1.00e+15$ ohm	
Dielectric Constant	2.9	2.9	
	@Frequency 100 Hz	@Frequency 100 Hz	
	2.9	2.9	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	35.0 kV/mm	889 kV/in	
Dissipation Factor	0.0020	0.0020	
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0070	0.0070	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
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	200 °C	392 °F	
Injection Velocity	200 mm/sec	7.87 in/sec	

Descriptive Properties	Value	Comments
Effective thermal diffusivity	0.1E-6 m <sup>2</sup> /s	Melt

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