

Covestro Apec® DP9-9351 High-Heat Polycarbonate, General Purpose (discontinued **)

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, High Heat

Material Notes:

Information provided by Bayer Corporation, Plastics DivisionAs 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-DP9-9351-High-Heat-Polycarbonate-General-Purpose-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	ASTM D792
Water Absorption	0.20 %	0.20 %	24 hour immersion; ASTM D570
Linear Mold Shrinkage	0.0080 - 0.0090 cm/cm	0.0080 - 0.0090 in/in	ASTM D955
Melt Flow	8.0 g/10 min @Load 2.16 kg, Temperature 330 °C	8.0 g/10 min @Load 4.76 lb, Temperature 626 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	84	84	ASTM D785
Hardness, Rockwell R	127	127	ASTM D785
Tensile Strength, Ultimate	62.0 MPa	8990 psi	ASTM D638
Tensile Strength, Yield	66.0 MPa	9570 psi	ASTM D638
Elongation at Break	80 %	80 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	ASTM D638
Tensile Modulus	2.20 GPa	319 ksi	ASTM D638
Flexural Yield Strength	86.0 MPa	12500 psi	ASTM D790
Flexural Modulus	2.28 GPa	331 ksi	ASTM D790
Izod Impact, Notched	1.10 J/cm @Thickness 3.17 mm	2.06 ft-lb/in @Thickness 0.125 in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
	NB @Temperature -40.0 °C	NB @Temperature -40.0 °F	ASTM D256

Mechanical Properties Impact Test	Metric 55.0 J	English 40.7 ft-lb	Comments Instrumented Impact, Total Energy; 3.2 mm thick, 15 mph, 3 in. clamp, 0.5 in. dart; ASTM D3763
	@Thickness 3.20 mm	@Thickness 0.126 in	

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	174 $^{\circ}\text{C}$	345 $^{\circ}\text{F}$	ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	162 $^{\circ}\text{C}$	324 $^{\circ}\text{F}$	ASTM D648
	@Thickness 3.17 mm	@Thickness 0.125 in	
Vicat Softening Point	185 $^{\circ}\text{C}$	365 $^{\circ}\text{F}$	Rate B; ASTM D1525
UL RTI, Electrical	150 $^{\circ}\text{C}$	302 $^{\circ}\text{F}$	UL746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical with Impact	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	UL746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical without Impact	150 $^{\circ}\text{C}$	302 $^{\circ}\text{F}$	UL746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Flammability, UL94	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	24 %	24 %	ASTM D2863

Optical Properties	Metric	English	Comments
Refractive Index	1.572	1.572	ASTM D542
Haze	1.0 %	1.0 %	ASTM D1003
	@Thickness 3.17 mm	@Thickness 0.125 in	
Transmission, Visible	88 %	88 %	ASTM D1003
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Surface Resistance	$\geq 1.00 \times 10^{16}$ ohm	$\geq 1.00 \times 10^{16}$ ohm	ASTM D257
Dielectric Constant	2.9	2.9	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
Dielectric Strength	2.9	2.9	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	≥ 16.0 kV/mm	≥ 406 kV/in	ASTM D149
	@Thickness 3.17 mm	@Thickness 0.125 in	
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
Dissipation Factor	0.010	0.010	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	120 - 180 sec	120 - 180 sec	UL Rating PLC 5 (120-180 sec)
	@Thickness 3.00 mm	@Thickness 0.118 in	
Comparative Tracking Index	400 - 600 V	400 - 600 V	UL Rating PLC 1 (400-600 V)
	@Thickness 3.00 mm	@Thickness 0.118 in	
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL Rating PLC 2 (30-60 sec)
	@Thickness 1.50 mm	@Thickness 0.0591 in	
High Amp Arc Ignition, HAI	≤ 15 arcs	≤ 15 arcs	UL Rating PLC 4 (<15 arcs)
	@Thickness 1.50 mm	@Thickness 0.0591 in	
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL Rating PLC 2 (25.4-80 mm/min.)
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Processing Temperature	315 - 340 °C	599 - 644 °F	

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