

Covestro Apec® DP9-9354 High-Heat Polycarbonate, Flame-Retardant (discontinued **)

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

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-DP9-9354-High-Heat-Polycarbonate-Flame-Retardant-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
Tensile Strength, Ultimate	62.0 MPa	8990 psi	ASTM D638
Tensile Strength, Yield	66.0 MPa	9570 psi	ASTM D638
Elongation at Break	30 %	30 %	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	1.00 J/cm @Thickness 3.17 mm	1.87 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
Impact Test	58.0 J @Thickness 3.20 mm	42.8 ft-lb @Thickness 0.126 in	Instrumented Impact, Total Energy; 3.2 mm thick, 15 mph, 3 in. clamp, 0.5 in. dart; ASTM D3763

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	140 $^{\circ}\text{C}$	284 $^{\circ}\text{F}$	UL746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical with Impact	120 $^{\circ}\text{C}$	248 $^{\circ}\text{F}$	UL746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical without Impact	140 $^{\circ}\text{C}$	284 $^{\circ}\text{F}$	UL746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	35 %	35 %	ASTM D2863

Optical Properties	Metric	English	Comments
Transmission, Visible	0.00 %	0.00 %	Opaque only

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00\text{e}+16$ ohm-cm	$\geq 1.00\text{e}+16$ ohm-cm	ASTM D257
Surface Resistance	$4.00\text{e}+15$ ohm	$4.00\text{e}+15$ ohm	ASTM D257
Dielectric Constant	2.9	2.9	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
	2.9	2.9	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Electrical Properties	Metric	English	Comments
Dielectric Strength	≥ 15.0 kV/mm	≥ 405 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	
	0.010	0.010	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	60 - 120 sec	60 - 120 sec	UL Rating PLC 6 (60-120 sec)
	@Thickness 3.00 mm	@Thickness 0.118 in	
Comparative Tracking Index	≥ 600 V	≥ 600 V	UL Rating PLC 0 (>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	≥ 120 arcs	≥ 120 arcs	UL Rating PLC 0 (>120 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	

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