

Covestro Bayblend® FR3010 HF

PC+ABS)-Blend; flame retardant; easy flowing; Vicat/B 120 temperature = 108 °C; UL recognition 94 V-0 at 1.5 mm; glow wire temperature (GWFI): 960 °C at 2.0 mm; optimized processability; good light stability

Physical Properties	Metric	English	Comments
Density	1.18 g/cc	0.0426 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.20 %	0.20 %	ISO 62, 50% RH
Water Absorption at Saturation	0.50 %	0.50 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.00 mm	0.0050 - 0.0070 in/in @Thickness 0.118 in	150x105x3mm; b.o. ISO 2577
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.00 mm	0.0050 - 0.0070 in/in @Thickness 0.118 in	150x105x3mm; b.o. ISO 2577
Melt Flow	29.5 g/10 min @Load 5.00 kg, Temperature 240 °C	29.5 g/10 min @Load 11.0 lb, Temperature 464 °F	ISO 1133
Spiral Flow	40.0 cm	15.7 in	260 °C/80°C; 2 x 8 mm; Bayer test

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	50 mm/min; ISO 527-1,-2
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527-1,-2
Elongation at Break	>= 50 %	>= 50 %	50 mm/min; b.o. ISO 527-1,-2
Elongation at Yield	4.0 %	4.0 %	50 mm/min; ISO 527-1,-2
Tensile Modulus	2.60 GPa	377 ksi	1 mm/min; ISO 527-1,-2
Izod Impact, Notched (ISO)	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	ISO 180-A
	35.0 kJ/m ² @Temperature 23.0 °C	16.7 ft-lb/in ² @Temperature 73.4 °F	ISO 180-A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 180-U

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 60093
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	IEC 60093
Dielectric Constant	3.1 @Frequency 1e+6 Hz	3.1 @Frequency 1e+6 Hz	IEC 60250

	3.2 @Frequency 100 Hz	3.2 @Frequency 100 Hz	IEC 60250
Dielectric Strength	35.0 kV/mm @Thickness 1.00 mm	889 kV/in @Thickness 0.0394 in	IEC 60243-1
Dissipation Factor	0.0040 @Frequency 100 Hz	0.0040 @Frequency 100 Hz	IEC 60250
	0.0070 @Frequency 1e+6 Hz	0.0070 @Frequency 1e+6 Hz	IEC 60250

Comparative Tracking Index
350 V
350 V
Solution A; IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	76.0 $\mu\text{m}/\text{m}\cdot\text{C}^{\circ}$ @Temperature 23.0 - 55.0 $^{\circ}\text{C}$	42.2 $\mu\text{in}/\text{in}\cdot\text{F}^{\circ}$ @Temperature 73.4 - 131 $^{\circ}\text{F}$	ISO 11359-1,-2
CTE, linear, Transverse to Flow	80.0 $\mu\text{m}/\text{m}\cdot\text{C}^{\circ}$ @Temperature 23.0 - 55.0 $^{\circ}\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot\text{F}^{\circ}$ @Temperature 73.4 - 131 $^{\circ}\text{F}$	ISO 11359-1,-2
Deflection Temperature at 0.46 MPa (66 psi)	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	ISO 75-1,-2
Deflection Temperature at 1.8 MPa (264 psi)	90.0 $^{\circ}\text{C}$	194 $^{\circ}\text{F}$	ISO 75-1,-2
Vicat Softening Point	106 $^{\circ}\text{C}$ @Load 5.10 kg	223 $^{\circ}\text{F}$ @Load 11.2 lb	50 $^{\circ}\text{C}/\text{h}$; ISO 306
	108 $^{\circ}\text{C}$ @Load 5.10 kg	226 $^{\circ}\text{F}$ @Load 11.2 lb	120 $^{\circ}\text{C}/\text{h}$; ISO 306
Flammability, UL94	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	
	5VB @Thickness 2.20 mm	5VB @Thickness 0.0866 in	UL 94-5V
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94-5V

Processing Properties	Metric	English	Comments
Melt Temperature	240 $^{\circ}\text{C}$	464 $^{\circ}\text{F}$	Injection molding; ISO 294
Mold Temperature	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	Injection molding; ISO 294
Injection Velocity	240 mm/sec	9.45 in/sec	ISO 294