

Covestro Bayblend[®] FR3110 TV

(PC+ABS)-Blend; flame retardant; easy flowing; Vicat/B 120 temperature = 110 °C; increased heat resistance; UL recognition 94 V-0 at 1.5 mm

As of 1 September 2015, Bayer MaterialScience was separated from Bayer AG and officially adopted its new name – Covestro.

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
Viscosity	140000 cP @Shear Rate 1000 1/s, Temperature 260 °C	140000 cP @Shear Rate 1000 1/s, Temperature 500 °F	melt viscosity; b.o. ISO 11443-A
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	34.22 g/10 min @Load 5.00 kg, Temperature 240 °C	34.22 g/10 min @Load 11.0 lb, Temperature 464 °F	ISO 1133

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	2.70 GPa	392 ksi	1 mm/min; ISO 527-1,-2
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature 23.0 °C	5.71 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+16 ohm-cm	1.00e+16 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	30.0 kV/mm @Thickness 1.00 mm	762 kV/in @Thickness 0.0394 in	IEC 60243-1
Dissipation Factor	0.0050 @Frequency 100 Hz	0.0050 @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	68.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 55.0 °C	37.8 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 131 °F	ISO 11359-1,-2
CTE, linear, Transverse to Flow	68.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 55.0 °C	37.8 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 131 °F	ISO 11359-1,-2
Deflection Temperature at 0.46 MPa (66 psi)	101 °C	214 °F	ISO 75-1,-2
Deflection Temperature at 1.8 MPa (264 psi)	91.0 °C	196 °F	ISO 75-1,-2
Vicat Softening Point	108 °C @Load 5.10 kg	226 °F @Load 11.2 lb	50 $\text{°C}/\text{h}$; ISO 306
	110 °C @Load 5.10 kg	230 °F @Load 11.2 lb	120 $\text{°C}/\text{h}$; ISO 306
Flammability, UL94	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	
Processing Properties	Metric	English	Comments
Melt Temperature	240 °C	464 °F	Injection molding; ISO 294
Mold Temperature	80.0 °C	176 °F	Injection molding; ISO 294
Injection Velocity	240 mm/sec	9.45 in/sec	ISO 294