

# Covestro Bayblend® FR3305 TV

(PC+ABS)-Blend; 10% glass fiber reinforced; flame retardant; Vicat/B 120 temperature = 103 °C; UL recognition 94 V-0 at 1.2 mm; UL recognition 94 V-1 at 1.0 mm  
Information provided by Covestro

Physical Properties	Metric	English	Comments
Density	1.28 g/cc	0.0462 lb/in <sup>3</sup>	ISO 1183-1
Moisture Absorption at Equilibrium	0.10 %	0.10 %	ISO 62
Water Absorption at Saturation	0.40 %	0.40 %	ISO 62
Viscosity	185000 cP @Frequency 1000 Hz, Temperature 260 °C	185000 cP @Frequency 1000 Hz, Temperature 500 °F	Melt; b.o. ISO 11443-A
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	150x105x3 mm; 260 °C / MT 80 °C; b. o. ISO 2577
Linear Mold Shrinkage, Transverse	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	150x105x3 mm; 260 °C / MT 80 °C; b. o. ISO 2577
Melt Flow	20.48 g/10 min @Load 5.00 kg, Temperature 240 °C	20.48 g/10 min @Load 11.0 lb, Temperature 464 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	75.0 MPa	10900 psi	50 mm/min; ISO 527-1,-2
Tensile Strength, Yield	75.0 MPa	10900 psi	50 mm/min; ISO 527-1,-2
Elongation at Break	4.0 %	4.0 %	50 mm/min; ISO 527-1,-2
Elongation at Yield	3.0 %	3.0 %	50 mm/min; ISO 527-1,-2
Tensile Modulus	4.35 GPa	631 ksi	1 mm/min; ISO 527-1,-2
Izod Impact, Notched (ISO)	7.00 kJ/m <sup>2</sup> @Temperature 23.0 °C	3.33 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180-A
Izod Impact, Unnotched (ISO)	35.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	16.7 ft-lb/in <sup>2</sup> @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	3.2 @Frequency 1e+6 Hz	3.2 @Frequency 1e+6 Hz	IEC 60250
	3.3 @Frequency 100 Hz	3.3 @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	0.0050 @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	175 V	175 V	Solution A; IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 23.0 - 55.0 $^\circ\text{C}$	27.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 73.4 - 131 $^\circ\text{F}$	ISO 11359-1, -2
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 23.0 - 55.0 $^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 73.4 - 131 $^\circ\text{F}$	ISO 11359-1, -2
Deflection Temperature at 0.46 MPa (66 psi)	98.0 $^\circ\text{C}$	208 $^\circ\text{F}$	ISO 75-1,-2
Deflection Temperature at 1.8 MPa (264 psi)	92.0 $^\circ\text{C}$	198 $^\circ\text{F}$	ISO 75-1,-2
Vicat Softening Point	101 $^\circ\text{C}$ @Load 5.10 kg	214 $^\circ\text{F}$ @Load 11.2 lb	50 $^\circ\text{C}/\text{h}$ ; ISO 306
	103 $^\circ\text{C}$ @Load 5.10 kg	217 $^\circ\text{F}$ @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	
	V-0 @Thickness 1.20 mm	V-0 @Thickness 0.0472 in	
	5VB @Thickness 3.00 mm	5VB @Thickness 0.118 in	
	5VA @Thickness 2.00 mm	5VA @Thickness 0.0787 in	

Processing Properties	Metric	English	Comments
Melt Temperature	260 $^\circ\text{C}$	500 $^\circ\text{F}$	Injection; ISO 294
Mold Temperature	80.0 $^\circ\text{C}$	176 $^\circ\text{F}$	Injection; ISO 294
Injection Velocity	40.0 mm/sec	1.57 in/sec	ISO 294