

Covestro Bayblend® FR410 MT

Rubber modified PC blend; 10 % mineral filled; flame retardant; Vicat/B 120 temperature = 108 °C; very good UL recognition in small wall thicknesses (V-0 at 0.75 mm); for railway interiors; due to the special formulation of this grade, the final parts may require coating

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 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	360000 cP @Shear Rate 1000 1/s, Temperature 260 °C	360000 cP @Shear Rate 1000 1/s, Temperature 500 °F	melt viscosity; b.o. ISO 11443-A
Linear Mold Shrinkage, Flow	0.0040 - 0.0050 cm/cm @Thickness 3.00 mm	0.0040 - 0.0050 in/in @Thickness 0.118 in	150x105x3mm; b.o. ISO 2577
Linear Mold Shrinkage, Transverse	0.0040 - 0.0050 cm/cm @Thickness 3.00 mm	0.0040 - 0.0050 in/in @Thickness 0.118 in	150x105x3mm; b.o. ISO 2577
Melt Flow	13 g/10 min @Load 5.00 kg, Temperature 260 °C	13 g/10 min @Load 11.0 lb, Temperature 500 °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	63.0 MPa	9140 psi	50 mm/min; ISO 527-1,-2
Elongation at Break	19 %	19 %	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	3.95 GPa	573 ksi	1 mm/min; ISO 527-1,-2
Izod Impact, Notched (ISO)	7.00 kJ/m ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 180-A
	9.00 kJ/m ² @Temperature 23.0 °C	4.28 ft-lb/in ² @Temperature 73.4 °F	ISO 180-A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	48.0 µm/m-°C @Temperature 23.0 - 55.0 °C	26.7 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1,-2

CTE, linear, Transverse to Flow	59.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 23.0 - 55.0 $^{\circ}\text{C}$	32.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 73.4 - 131 $^{\circ}\text{F}$	ISO 11359-1,-2
Deflection Temperature at 1.8 MPa (264 psi)	94.0 $^{\circ}\text{C}$	201 $^{\circ}\text{F}$	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 0.750 mm	V-0 @Thickness 0.0295 in	
	5VB @Thickness 2.00 mm	5VB @Thickness 0.0787 in	UL 94-5V
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94-5V
Processing Properties	Metric	English	Comments
Melt Temperature	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	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