

Covestro Bayblend® T90 MF-20

Developmental product
 • Injection molding grade
 • 20 % mineral filled

Physical Properties	Metric	English	Comments
Density	1.29 g/cc	0.0466 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.20 %	0.20 %	ISO 62
Water Absorption at Saturation	0.50 %	0.50 %	ISO 62
Viscosity	240000 cP @Shear Rate 1000 1/s, Temperature 260 °C	240000 cP @Shear Rate 1000 1/s, Temperature 500 °F	Melt; b.o. ISO 11443-A
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm @Thickness 3.00 mm	0.0030 - 0.0050 in/in @Thickness 0.118 in	150x105x3 mm; 260 °C / MT 80 °C; b.o. ISO 2577
Linear Mold Shrinkage, Transverse	0.0025 - 0.0045 cm/cm @Thickness 3.00 mm	0.0025 - 0.0045 in/in @Thickness 0.118 in	150x105x3 mm; 260 °C / MT 80 °C; b.o. ISO 2577
Melt Flow	15 g/10 min @Load 5.00 kg, Temperature 260 °C	15 g/10 min @Load 11.0 lb, Temperature 500 °F	estimated from MVR using room temperature density; 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	9.0 %	9.0 %	50 mm/min; ISO 527-1/-2
Elongation at Yield	3.2 %	3.2 %	50 mm/min; ISO 527-1/-2
Tensile Modulus	4.90 GPa	711 ksi	1 mm/min; ISO 527-1/-2
Izod Impact, Notched (ISO)	6.00 kJ/m ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	ISO 180-A
	20.0 kJ/m ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	ISO 180-A
Izod Impact, Unnotched (ISO)	50.0 kJ/m ² @Temperature -30.0 °C	23.8 ft-lb/in ² @Temperature -22.0 °F	ISO 180-U
	100 kJ/m ² @Temperature 23.0 °C	47.6 ft-lb/in ² @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	889 kV/in	1 mm; IEC 60243-1
Dissipation Factor	0.0015 @Frequency 100 Hz	0.0015 @Frequency 100 Hz	IEC 60250
	0.0032 @Frequency 1e+6 Hz	0.0032 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	225 V	225 V	Solution A; IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 55.0 °C	22.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 131 °F	ISO 11359-1,-2
CTE, linear, Transverse to Flow	56.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 55.0 °C	31.1 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 131 °F	ISO 11359-1,-2
Deflection Temperature at 0.46 MPa (66 psi)	127 °C	261 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	111 °C	232 °F	ISO 75-1/-2
Vicat Softening Point	128 °C @Load 5.10 kg	262 °F @Load 11.2 lb	50°C/h; ISO 306
	130 °C @Load 5.10 kg	266 °F @Load 11.2 lb	120°C/h; ISO 306
Flammability, UL94	HB @Thickness 0.850 mm	HB @Thickness 0.0335 in	IEC 60695-11-10

Processing Properties	Metric	English	Comments
Melt Temperature	260 °C	500 °F	Injection Molding; ISO 294
Mold Temperature	80.0 °C	176 °F	Injection Molding; ISO 294
	70.0 - 100 °C	158 - 212 °F	
Injection Velocity	240 mm/sec	9.45 in/sec	ISO 294
Drying Temperature	100 - 110 °C	212 - 230 °F	
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Dry air dryer
	2.00 - 4.00 hour	2.00 - 4.00 hour	Fresh air dryer (high speed dryer)
Moisture Content	0.010 - 0.050 %	0.010 - 0.050 %	