

# Covestro Bayblend® T45 PG

ABS+PC-Blend; Vicat/B 120 temperature = 112 °C; for electroplating applications

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	1.10 g/cc	0.0397 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.20 %	0.20 %	ISO 62
Water Absorption at Saturation	0.70 %	0.70 %	ISO 62
Viscosity	200000 cP @Shear Rate 1000 1/s, Temperature 260 °C	200000 cP @Shear Rate 1000 1/s, Temperature 500 °F	b.o. ISO 11443-A
Linear Mold Shrinkage, Flow	0.0055 - 0.0075 cm/cm @Thickness 3.00 mm	0.0055 - 0.0075 in/in @Thickness 0.118 in	150x105x3 mm; 260 °C / MT 80 °C; b.o. ISO 2577
Linear Mold Shrinkage, Transverse	0.0055 - 0.0075 cm/cm @Thickness 3.00 mm	0.0055 - 0.0075 in/in @Thickness 0.118 in	150x105x3 mm; 260 °C / MT 80 °C; b.o. ISO 2577
Melt Flow	12 g/10 min @Load 5.00 kg, Temperature 260 °C	12 g/10 min @Load 11.0 lb, Temperature 500 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	40.0 MPa	5800 psi	50 mm/min; ISO 527-1/-2
Tensile Strength, Yield	49.0 MPa	7110 psi	50 mm/min; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	50 mm/min; ISO 527-1/-2
Elongation at Yield	3.7 %	3.7 %	50 mm/min; ISO 527-1/-2
Tensile Modulus	2.10 GPa	305 ksi	1 mm/min; ISO 527-1/-2
Izod Impact, Notched (ISO)	36.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	17.1 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 180-A
	40.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	19.0 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180-A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 180-U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 180-U

Electrical Properties	Metric	English	Comments
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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	3.0 @Frequency 1e+6 Hz	3.0 @Frequency 1e+6 Hz	IEC 60250
	3.1 @Frequency 100 Hz	3.1 @Frequency 100 Hz	IEC 60250
Dielectric Strength	35.0 kV/mm	889 kV/in	1 mm; IEC 60243-1
Dissipation Factor	0.0035 @Frequency 100 Hz	0.0035 @Frequency 100 Hz	IEC 60250
	0.0085 @Frequency 1e+6 Hz	0.0085 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	275 V	275 V	Solution A; IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	85.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 55.0 $\text{°C}$	47.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 131 $\text{°F}$	ISO 11359-1,-2
CTE, linear, Transverse to Flow	90.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 44.0 $\text{°C}$	50.0 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 111 $\text{°F}$	ISO 11359-1,-2
Thermal Conductivity	0.142 W/m-K	0.985 BTU-in/hr-ft <sup>2</sup> - $\text{°F}$	Melt
Deflection Temperature at 0.46 MPa (66 psi)	112 $\text{°C}$	234 $\text{°F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	95.0 $\text{°C}$	203 $\text{°F}$	ISO 75-1/-2
Vicat Softening Point	110 $\text{°C}$ @Load 5.10 kg	230 $\text{°F}$ @Load 11.2 lb	50 $\text{°C}/\text{h}$ ; ISO 306
	112 $\text{°C}$ @Load 5.10 kg	234 $\text{°F}$ @Load 11.2 lb	120 $\text{°C}/\text{h}$ ; 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 $\text{°C}$	500 $\text{°F}$	Injection Molding; ISO 294
Mold Temperature	80.0 $\text{°C}$	176 $\text{°F}$	Injection Molding; ISO 294
Injection Velocity	240 mm/sec	9.45 in/sec	ISO 294