






BASF Ultradur B 4520 PBT

Categories: [Polymer](#); [Thermoplastic](#); [Polyester, TP](#); [Polybutylene Terephthalate \(PBT\)](#); [Polybutylene Terephthalate \(PBT\), Unreinforced, Molded](#)

Material Notes: Ultradur B4520 is a medium viscosity, rapidly freezing Injection molding grade.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 lb/in ³	ISO 1183
Water Absorption	0.500 %	0.500 %	ISO 62
Moisture Absorption at Equilibrium	0.250 %	0.250 %	23°C/50% R.H.; ISO 62
Viscosity Test	130 cm ³ /g	130 cm ³ /g	Viscosity number
Linear Mold Shrinkage	0.0150 cm/cm	0.0150 in/in	ASTM Data, MD
Melt Flow	19.0 g/10 min @Load 2.16 kg Temperature 250 °C	19.0 g/10 min @Load 4.76 lb Temperature 482 °F	ISO 1133
Mechanical Properties			
Tensile Strength, Yield			
	60.0 MPa	8700 psi	50mm/min; ISO 527
	60.0 MPa	8700 psi	2 in/min; ASTM Test
	18.0 MPa @Temperature 120 °C	2610 psi @Temperature 248 °F	ISO Data
	22.0 MPa @Temperature 80.0 °C	3190 psi @Temperature 176 °F	ISO Data
	94.0 MPa @Temperature -40.0 °C	13600 psi @Temperature -40.0 °F	ISO Data
Elongation at Break	>= 50.0 %	>= 50.0 %	50mm/min, Nominal strain; ISO 527
Elongation at Yield	3.70 %	3.70 %	2 in/min; ASTM Test
	3.70 %	3.70 %	50mm/min; ISO 527
	5.60 % @Temperature -40.0 °C	5.60 % @Temperature -40.0 °F	ISO Data
	17.0 % @Temperature 80.0 °C	17.0 % @Temperature 176 °F	ISO Data
	18.0 % @Temperature 120 °C	18.0 % @Temperature 248 °F	ISO Data
Tensile Modulus	2.48 GPa	360 ksi	ASTM Test
	2.50 GPa	363 ksi	1mm/min; ISO 527
Flexural Modulus	2.30 GPa	334 ksi	ASTM Test
	2.40 GPa	348 ksi	ISO Data
Charpy Impact Unnotched	NB	NB	ISO 179
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179
	0.300 J/cm ² @Temperature -30.0 °C	1.43 ft-lb/in ² @Temperature -22.0 °F	ISO 179
Tensile Creep Modulus, 1 hour	1800 MPa	261000 psi	ISO 899
Tensile Creep Modulus, 1000 hours	1200 MPa	174000 psi	ISO 899
Izod Impact, Notched	0.370 J/cm	0.693 ft-lb/in	ASTM Test
	0.430 J/cm @Thickness 3.17 mm	0.806 ft-lb/in @Thickness 0.125 in	ASTM Test
Electrical Properties			
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 60093
Dielectric Constant	3.30 @Frequency 1.00e+6 Hz	3.30 @Frequency 1.00e+6 Hz	IEC 60250
	3.40 @Frequency 100 Hz	3.40 @Frequency 100 Hz	IEC 60250
Dissipation Factor	0.00200 @Frequency 100 Hz	0.00200 @Frequency 100 Hz	IEC 60250
	0.0200 @Frequency 1.00e+6 Hz	0.0200 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	550 V	550 V	IEC 60112
Thermal Properties			
CTE, linear	145 µm/m-°C	80.6 µin/in-°F	Parallel; ISO 11359
Melting Point	223 °C	433 °F	ASTM Test

	223 °C	433 °F	10 K/min
Deflection Temperature at 0.46 MPa (66 psi)	163 °C	325 °F	ASTM Test
	165 °C	329 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	60.0 °C	140 °F	ASTM Test
	60.0 °C	140 °F	ISO 75
Flammability, UL94 	HB @Thickness 1.55 mm	HB @Thickness 0.0610 in	
	HB @Thickness 0.400 mm	HB @Thickness 0.0157 in	
Oxygen Index	20.0 %	20.0 %	ISO 4589-1/-2

Processing Properties	Metric	English	Comments
Melt Temperature	265 °C	509 °F	Injection molding
Mold Temperature	160 °C	320 °F	Injection molding
Injection Velocity	65.0 mm/sec	2.56 in/sec	Injection molding

Descriptive Properties

Color	Natural
Commercial Status	North America and Europe
Form	Pellets
Impact Modified	No
Primary Processing Technique	Injection Molding
Processing	Injection Molding
Special characteristic	Heat stabilized or stable to heat Light stabilized or stable to light Lubricant U.V. stabilized or stable to weather

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.