

## Unitika UNILATE® 1 PC PET

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET)

### Material Notes:

Standard grade UNILATE® products are plate materials prepared by using a polyethylene terephthalate (PET resin) as the main component, blending it with glass staple fiber, inorganic filler, and others, and extruding the composite resins into plates, and laminating and heat-pressing the plates. UNILATE plates and boards are superior in heat resistance, withstand voltage, strength, and processability to the plates and boards of thermoplastic resins such as nylon, polyacetal, and others. The UNILATE plates and boards are greatly improved in water-absorbing property, electrical properties, and processability, compared to other thermosetting resin laminated sheets used in electric insulation applications. Information provided by Unitika Ltd.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Unitika-UNILATE-1-PC-PET.php](http://www.lookpolymers.com/polymer_Unitika-UNILATE-1-PC-PET.php)

Physical Properties	Metric	English	Comments
Density	1.63 g/cc	0.0589 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.10 %	0.10 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength at Break	65.0 MPa	9430 psi	Horizontal; ASTM D570
	110 MPa	16000 psi	Vertical; ASTM D570
Elongation at Break	1.9 %	1.9 %	Horizontal; ASTM D570
	2.4 %	2.4 %	Vertical; ASTM D570
Flexural Strength	125 MPa	18100 psi	Horizontal; ASTM D790
	220 MPa	31900 psi	Vertical; ASTM D790
Flexural Modulus	7.00 GPa	1020 ksi	Horizontal; ASTM D790
	11.0 GPa	1600 ksi	Vertical; ASTM D790
Compressive Strength	135 MPa	19600 psi	ASTM D695
Shear Strength	64.0 MPa	9280 psi	ASTM D732
Izod Impact, Unnotched	0.640 J/cm	1.20 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 μm/m-°C	22.2 μin/in-°F	Vertical; ASTM D696

Thermal Properties	@Temperature 25.0 - 100 °C Metric	@Temperature 77.0 - 212 °F English	Comments
	74.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	41.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Horizontal; ASTM D696
	@Temperature 25.0 - 100 °C	@Temperature 77.0 - 212 °F	
Thermal Conductivity	0.510 W/m-K	3.54 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	235 °C	455 °F	ASTM D648
Flammability, UL94	HB	HB	
	@Thickness 0.600 mm	@Thickness 0.0236 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	ASTM D257
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	ASTM D257
Insulation Resistance	8.80e+14 ohm	8.80e+14 ohm	ASTM D257
Dielectric Constant	3.8	3.8	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	37.0 kV/mm	940 kV/in	Under ambient atmosphere; ASTM D149
	37.0 kV/mm	940 kV/in	After water absorption; ASTM D149
Dissipation Factor	0.025	0.025	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	120 sec	120 sec	
Comparative Tracking Index	275 V	275 V	IEC 112

Descriptive Properties	Value	Comments
Appearance	Opaque	
Ignition Temperature	471°C	

## Contact Songhan Plastic Technology Co.,Ltd.

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