

## Unitika UNILATE® 1 NC PET

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

### Material Notes:

Flame resisting 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-NC-PET.php](http://www.lookpolymers.com/polymer_Unitika-UNILATE-1-NC-PET.php)

Physical Properties	Metric	English	Comments
Density	1.74 g/cc	0.0629 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.22 %	0.22 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	80	80	ASTM D785
Tensile Strength at Break	56.0 MPa	8120 psi	Horizontal; ASTM D570
	95.0 MPa	13800 psi	Vertical; ASTM D570
Elongation at Break	1.4 %	1.4 %	Horizontal; ASTM D570
	2.0 %	2.0 %	Vertical; ASTM D570
Flexural Strength	95.0 MPa	13800 psi	Horizontal; ASTM D790
	190 MPa	27600 psi	Vertical; ASTM D790
Flexural Modulus	6.00 GPa	870 ksi	Horizontal; ASTM D790
	9.00 GPa	1310 ksi	Vertical; ASTM D790
Compressive Strength	130 MPa	18900 psi	ASTM D695
Shear Strength	49.0 MPa	7110 psi	ASTM D732
Izod Impact, Unnotched	0.540 J/cm	1.01 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	27.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Vertical; ASTM D696

Thermal Properties	@Temperature 25.0 - 100 °C Metric	@Temperature 77.0 - 212 °F English	Comments
	80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Horizontal; ASTM D696
	@Temperature 25.0 - 100 °C	@Temperature 77.0 - 212 °F	
Thermal Conductivity	0.310 W/m-K	2.15 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	V-0	V-0	
	@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	3.80e+14 ohm	3.80e+14 ohm	ASTM D257
Dielectric Constant	3.6	3.6	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	34.0 kV/mm	864 kV/in	Under ambient atmosphere; ASTM D149
	34.0 kV/mm	864 kV/in	After water absorption; ASTM D149
Dissipation Factor	0.019	0.019	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	80 sec	80 sec	
Comparative Tracking Index	200 V	200 V	IEC 112

Descriptive Properties	Value	Comments
Appearance	Opaque	
Ignition Temperature	460°C	

## Contact Songhan Plastic Technology Co.,Ltd.

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