

### VIVAK VI Properties

Physical	Test method	Units	VIVAK PETG VI
Specific Gravity/Relative Density	ASTM D-792		1.27
Optical Refractive Index	ASTM D-542	nD	1.57
Light Transmission -Total	ASTM D-1003	%	86
Light Transmission - Haze	ASTM D-1003	%	1.0
Water Absorption	ASTM D-570	% By wt	0.2

Mechanical	Test method	Units	VIVAK PETG VI
Tensile Strength	ASTM D-638	psi	7,700
Tensile Modulus of Elasticity	ASTM D-638	psi	320,300
Flexural Strength	ASTM D-790	psi	11,200
Flexural Modulus of Elasticity	ASTM D-790	psi	310,000
Dielectric Constant	ASTM D-150	@1kHz	2.6
Dielectric Constant	ASTM D-150	@1mHz	2.4
Dielectric Strength	ASTM D-149	volts/mil	410
Compressive Strength	ASTM D-695	psi	8,000
Shear Strength	ASTM D-732	psi	9,000
Rockwell Hardness	ASTM D-785		R-115

Thermal	Test method	Units	VIVAK PETG VI
Deflection Temperature 264 psi (1.8 MPa)	ASTM D-648	°F	157
Deflection Temperature 66 psi (0.45 MPa)	ASTM D-648	°F	164
Coefficient of Thermal Expansion - 30 to 30°C	ASTM D-696	$\text{in}/(\text{in}\cdot^{\circ}\text{F}) \times 10^5$	3.8
Thermal Conductivity	ASTM C-177	BTU-ft/(hr-ft <sup>2</sup> )	0.13
Flammability (Burning Rate)	ASTM D-635	In/minute	0.06
Flammability	UL 94		HB
Smoke Density Rating	ASTM D-2843	%	53.8
Self-Ignition Temperature	ASTM D-1929	°F	880
Flame Spread Index	ASTM E84		85
Smoke Developed Index	ASTM E84		450
Glass Transition Temperature	ASTM D-3418	psi	178

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.