



**INTERNATIONAL
CERAMIC
ENGINEERING**

235 Brooks Street, Worcester, MA 01606
 phone: (508) 853-4700 fax: (508) 852-4101 email: sales@intlceramics.com
Engineering Answers in Advanced Ceramics

Vespel® SP-1

<i>Properties</i>	<i>Measurements</i>
<i>Physical Properties</i>	
Density lb/in ³ (g/cm ³)	0.051 (1.43)
Water Absorption (%)	at 73°F 0.24 at 48hrs at 122°F 0.72
<i>Mechanical Properties</i>	
Tensile Strength (psi)	at 73°F 12,500 at 500°F 6,000
Tensile Modulus (psi)	---
Tensile Elongation at Break (%)	at 73°F 7.5 at 500°F 6.0
Flexural Strength (psi)	at 73°F 16,000 at 500°F 9,000
Flexural Modulus psi (Kpsi)	at 73°F 450,000 at 500°F 250,000
Compressive Strength (psi)	10% strain at 73°F 19,300
Compressive Modulus (psi)	350,000
Hardness, Rockwell (Shore D)	E45-60
IZOD Impact Notched (ft-lb/in)	0.8
<i>Thermal Properties</i>	
Coefficient of Linear Thermal Expansion (x10 ⁻⁵ in/in/oF)	3.0
Heat Deflection Temp (at 264 psi °F / °C)	680 / 360
Melting Temperature (°F / °C)	---
Maximum Operating Temperature (°F / °C)	500 / 260
Thermal Conductivity BTU-in./ft ² -hr.-°F x 10 ⁻⁴ cal/cm-sec-°C	2.0 6.9
Flammability Rating	V-0
<i>Electrical Properties</i>	
Dielectric Strength (V/mil) short time, 1/8" thick	560
Dielectric Constant at 1MHz (60 Hz)	3.55
Dissipation Factor at 1 MHz (60 Hz)	0.0034
Volume Resistivity (ohm-cm) at 50% RH	10 ¹⁴ - 10 ¹⁵

