



- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: VESPEL® SP-22	40% Graphite filled Polyimide
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VESPEL® SP-22 has 40% graphite that is added to the base resin providing enhanced resistance to wear and friction. VESPEL® SP-22 has the lowest coefficient of thermal expansion.

These are machined properties and are non-directional

Physical Properties	Test Method ASTM	Value	Units
Density	D-792	1.65	lb/in ³
Water Absorption 24hrs. @73°F	D-570	0.14	%
Mechanical Properties			
Hardness, Rockwell E	D-785	E5-25	
Tensile Strength Ultimate @ 73°F	D-1708	7,500	psi
Tensile Strength Ultimate @ 500°F	D-1708	3,400	psi
Flexural Modulus @ 73°F	D-790	700	10 ³ psi
Flexural Modulus @ 500°F	D-790	400	10 ³ psi
Flexural Strength Ultimate @ 73°F	D-790	13,000	psi
Flexural Strength Ultimate @ 500°F	D-790	6,500	psi
Compressive Stress @ 73°F 1% Strain	D-695	3,600	psi
Izod Impact, Notched @ 73°	D-256		ft-lb/in
Izod Impact, Unnotched @ 73°F	D-256		ft-lb/in
Electrical Properties			
Dielectric Constant @73°F 10 ² Hz	D-150		
Dielectric Strength Short Time 80 mils thick 73°F	D-149		Volts/mil
Dissipation Factor @ 73°F 10 ² Hz	D-150		
Arc Resistance			sec
Thermal Properties			
CTE 73°F - 572°F	E-228	21	10 ⁻⁶ in/in/°F
CTE - 80°F - 73°F	E-228		10 ⁻⁶ in/in/°F
Thermal Conductivity	E-228	12.0	BTU-in/hr-ft ² °F
Maximum Service Temperature, Air			°F
Flammability, UL94			

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*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufacturers, converters and other published sources. However, they should not be used for specification or design purposes.