



- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: VESPEL® SP-3

15 % Molybdenum Disulfide Polyimide

VespeL® SP-3 is 15% moly-filled (molybdenum disulfide solid lubricant) for wear and friction resistance in vacuum and other moisture-free environments where graphite actually becomes abrasive. Typical applications of VespeL® SP-3 include seals, bushings, bearings, gears, and ultra-high vacuum or dry gas applications.

These are machined properties and are non-directional

Physical Properties	Test Method ASTM	Value	Units
Density	D-792	1.60	lb/in ³
Water Absorption 24hrs. @73°F	D-570		%
Mechanical Properties			
Hardness, Rockwell E	D-785	40-55	
Tensile Strength Ultimate @ 73°F	D-1708	7,500	psi
Tensile Strength Ultimate @ 500°F	D-1708	3,500	psi
Flexural Modulus @ 73°F	D-790	475	10 ³ psi
Flexural Modulus @ 500°F	D-790	270	10 ³ psi
Flexural Strength Ultimate @ 73°F	D-790	5,500	psi
Flexural Strength Ultimate @ 500°F	D-790	475	psi
Compressive Stress @ 73°F 1% Strain	D-695		psi
Izod Impact, Notched @ 73°	D-256	0.4	ft-lb/in
Izod Impact, Unnotched @ 73°F	D-256	2.1	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	29	10 ⁻⁶ in/in/°F
CTE - 80°F - 73°F	E-228		10 ⁻⁶ in/in/°F
Thermal Conductivity	E-228	3.2	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.