



- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: Vespel® SCP-50094

Vespel® SCP-50094 is designed for tougher applications and offers better thermal stability and chemical resistance than ST-2010. SCF for ultra high stress applications.

These are machined properties and are non-directional

Physical Properties	Test Method ASTM	Value
Density	D-792	1.44
Water Absorption 24hrs. @73°F	D-570	0.96
Mechanical Properties		
Hardness, Rockwell M	D-785	70
Tensile Strength Ultimate @ 23°C/73°F	D-638	12.8
Tensile Strength Ultimate @ 260°C/500°F	D-638	6.6
Flexural Modulus @ 23°C/73°F	D-790	750
Flexural Modulus @ 260°C/500°F	D-790	392
Flexural Strength Ultimate @ 23°C/73°F	D-790	16
Flexural Strength Ultimate @ 260°C/500°F	D-790	10
Elongation at break 23°C/73°F	D-638	2.1
Elongation at break 260°C/500°F	D-638	4.6
Compressive Strength @ 23°C/73°F	D-695	24.7
Compressive Strength @ 260°C/500°F	D-695	11.2
Compressive Strain @ 23°C/73°F	D-695	18
Compressive Stain @ 260°C/500°F	D-695	31
Poisson's Ratio @ 23°C/73°F	D-638	0.25
Poisson's Ratio @190°C/374°F	D-638	0.32
Young's Modulus@ 23°C/73°F	D-638	941
Young's Modulus@ 260°C/500°F	D-638	539
Wear and Friction		
PV Limit	E-831	500
Coefficient Of Friction		13.1
		8.0
Thermal Properties		
CTE Parallel 23-300°C/73-572°F	E-831	33
CTE Prep 23-300°C/73-572°F	E-831	19
Thermal Oxidative Stability @ 371°C/700 °F *		3.3
*100 hours @ 70 psia, circulating air		

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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 to sources. However, they should not be used for specification or design purposes.



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50094 is being used in aircraft engines and is excellent

Units
lb/in ³
%
Kpsi
Kpsi
Kpsi
Kpsi
Kpsi
Kpsi
%
%
Kpsi
Kpsi
%
%
Kpsi
Kpsi
Kspi f/m
P=187 psi, V=134 f/m
P=250 psi, V=400 f/m
in. ⁻⁶ /in. °F
in. ⁻⁶ /in. °F
%
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