

## TYPICAL PROPERTIES

# VESPEL® SMP-40025

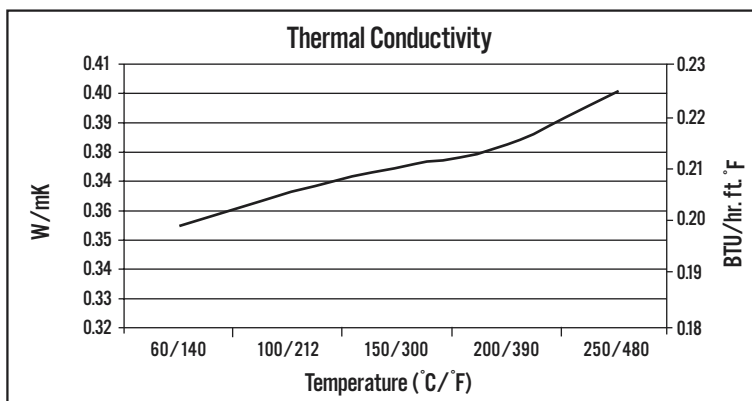
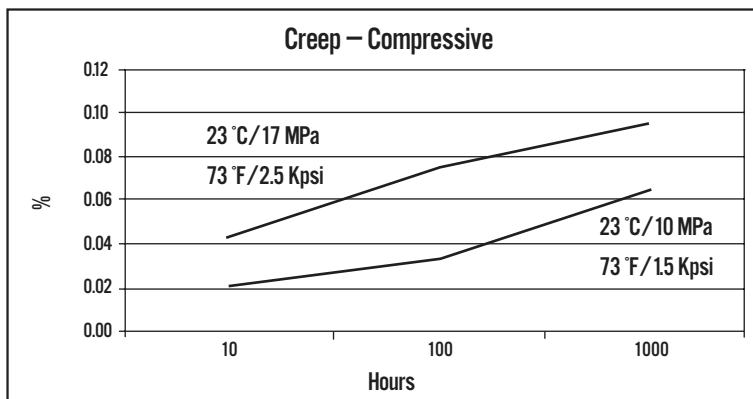


### HIGH-TEMPERATURE APPLICATION

DuPont™ VespeL® SMP-40025 is the S line's "best in class" regarding thermal oxidation resistance and thermal stability. (It's even better than SCP-50094!) As such, SMP-40025 is ideal for use in jet engines—particularly high-vibration applications. Its high modulus and low elongation provide dimensional stability at temperatures and loads that make other polymers wilt.

SMP-40025				
MECHANICAL		TEST METHOD	SI UNITS	ENGLISH UNITS
TENSILE STRENGTH	23°C/73°F 260°C/500°F	ASTM D-638	71 MPa 40 MPa	10.3 Kpsi 5.8 Kpsi
ELONGATION AT BREAK	23°C/73°F 260°C/500°F	ASTM D-638	1.4% 3.1%	1.4% 3.1%
YOUNG'S MODULUS	23°C/73°F 260°C/500°F	ASTM D-638	6,300 MPa 3,100 MPa	916 Kpsi 447 Kpsi
FLEXURAL MODULUS	23°C/73°F 260°C/500°F	ASTM D-790	4,900 MPa 2,500 MPa	710 Kpsi 358 Kpsi
FLEXURAL STRENGTH	23°C/73°F 260°C/500°F	ASTM D-790	80 MPa 53 MPa	11.6 Kpsi 7.7 Kpsi
SURFACE HARDNESS		ASTM D-785 Rockwell E	59	59
POISSON'S RATIO	23°C/73°F 190°C/374°F	ASTM D-638	0.3 0.3	0.3 0.3
THERMAL				
COEFFICIENT OF LINEAR THERMAL EXPANSION				
Parallel	23-300°C/ 73-572°F	ASTM E-831	63 m <sup>6</sup> /m °C	35 in. <sup>6</sup> /in. °F
Perp.	23-300°C/ 73-572°F	ASTM E-831	34 m <sup>6</sup> /m °C	19 in. <sup>6</sup> /in. °F
THERMAL OXIDATIVE STABILITY*	371°C/ 700°F		1.75%	1.75%
WEAR AND FRICTION				
PV LIMIT				
COEFFICIENT OF FRICTION (P=187 psi, V=134 f/m)			0.21	0.21
FALEX WEAR (25 KPV) (0.875 MPa m/s)			0.29	19.7
OTHER PROPERTIES				
SPECIFIC GRAVITY		ASTM D-792	1.39	1.39
WATER ABSORPTION @ 100%, 24 hrs. (Weight Change)		ASTM D-570	0.45%	0.45%

\*100 hours @ 70 psia, circulating air



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Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement."