

TYPICAL PROPERTIES

VESPEL® SCP 5000



ISO SHAPES HIGH-STRENGTH APPLICATION

Vespel® SCP-5000 is designed for demanding applications that require high mechanical toughness, excellent dimensional stability and thermal oxidative resistance. Its good chemical resistance allows it to operate well, not only in dry conditions, but also in wet chemical environments.

SCP-5000 ISO*

MECHANICAL		TEST METHOD	SI UNITS	ENGLISH UNITS
TENSILE STRENGTH	23°C/73°F 260°C/500°F	ASTM D-1708	160 MPa 62 MPa	23.4 Kpsi 8.99 Kpsi
ELONGATION AT BREAK	23°C/73°F 260°C/500°F	ASTM D-1708	7.0% >20%	7.0% >20%
COMPRESSIVE STRESS @ 1%	23°C/73°F 260°C/500°F	ASTM D-695	59.5 MPa 32.2 MPa	8.67 Kpsi 4.67 Kpsi
COMPRESSIVE STRESS @ 10%	23°C/73°F 260°C/500°F	ASTM D-695	230 MPa 73.6 MPa	33.3 Kpsi 10.7 Kpsi
COMPRESSIVE MODULUS	23°C/73°F 260°C/500°F	ASTM D-695	9,150 MPa 3,700 MPa	1,330 Kpsi 536 Kpsi
FLEXURAL STRENGTH	23°C/73°F 260°C/500°F	ASTM D-790	247 MPa 97 MPa	36 Kpsi 14.1 Kpsi
FLEXURAL MODULUS	23°C/73°F 260°C/500°F	ASTM D-790	5,740 MPa 3,010 MPa	836 Kpsi 436 Kpsi
SURFACE HARDNESS	23°C/73°F	ASTM D-785 Rockwell E	94-95	94-95
THERMAL				
COEFFICIENT OF LINEAR THERMAL EXPANSION				
Parallel	23-300°C/ 73-572°F	ASTM D-696	44 m ⁶ /m °C	24 in. ⁶ /in. °F
Perp.	23-300°C/ 73-572°F	ASTM D-696	47 m ⁶ /m °C	26 in. ⁶ /in. °F
ELECTRIC				
DIELECTRIC CONSTANT @ 10 ⁴ Hz	23°C/73°F	ASTM D-150	3.31	3.31
DIELECTRIC CONSTANT @ 10 ⁶ Hz	23°C/73°F	ASTM D-150	3.31	3.31
DISSIPATION FACTOR @ 10 ⁴ Hz	23°C/73°F	ASTM D-150	0.0010	0.0010
DISSIPATION FACTOR @ 10 ⁶ Hz	23°C/73°F	ASTM D-150	0.0010	0.0010
VOLUME RESISTIVITY	23°C/73°F	ASTM D-257	10 ¹⁴ Ohm-m	10 ¹⁴ Ohm-m
SURFACE RESISTIVITY	23°C/73°F	ASTM D-257	10 ¹⁵ Ohm	10 ¹⁵ Ohm
OTHER PROPERTIES				
SPECIFIC GRAVITY	23°C/73°F	ASTM D-792	1.43	1.43
WATER ABSORPTION @ 100%, 24hrs (Weight Change)		ASTM D-570	0.08%	0.08%

*Isostatically Compressed Shapes



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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."