

DuPont™ Vespel® SCP-5000

POLYIMIDE ISOSTATIC SHAPES

TYPICAL ISO PROPERTIES

DuPont™ Vespel® SCP-5000 is a proprietary polymer. It is designed for demanding applications that require extensive toughness and chemical and plasma resistance.

Some data presented below are based on limited production runs and are subject to revision as new knowledge and experience become available.

DuPont™ Vespel® SCP-5000 Isostatic Shapes					
Mechanical Property	Temperature	Pressure	ASTM Method	SI (English) Units	Typical Properties
Tensile Strength	23°C (73°F) 260°C (500°F)	—	D-638 Method/ D-1708 Specimen	MPa (kpsi)	155 (22.4) 61 (8.9)
Elongation	23°C (73°F) 260°C (500°F)	—	D-638 Method/ D-1708 Specimen	%	7.0 42
Compressive Strength	23°C (73°F) 260°C (500°F)	—	D-695	MPa (kpsi)	648 (94) 553 (80)
Compressive Stress at 1% Strain	23°C (73°F) 260°C (500°F)	—	D-695	MPa (kpsi)	60 (8.7) 32 (4.7)
Compressive Stress at 10% Strain	23°C (73°F) 260°C (500°F)	—	D-695	MPa (kpsi)	230 (33) 73 (11)
Flexural Modulus	23°C (73°F) 260°C (500°F)	—	D-790	MPa (kpsi)	5760 (835) 3010 (436)
Flexural Strength	23°C (73°F) 260°C (500°F)	—	D-790	MPa (kpsi)	247 (36) 97 (14)
Rockwell "E" Hardness	—	—	D785		94.8
Thermal Property	Temperature	Pressure	ASTM Method	SI (English) Units	Typical Properties
Coefficient of Thermal Expansion, Parallel Perpendicular	23–300°C (73–572°F)	—	E-831	m/m°C (in/in°F)	46.4 × 10 ⁻⁶ (25.8 × 10 ⁻⁶) 47.0 × 10 ⁻⁶ (26.0 × 10 ⁻⁶)
Electrical Property	Temperature	Pressure	ASTM Method	SI (English) Units	Typical Properties
Dielectric Constant, 10 ⁴ HZ 10 ⁶ HZ	23°C (73°F)	—	D-150		3.30 3.30
Dissipation Factor, 10 ⁴ HZ 10 ⁶ HZ	23°C (73°F)	—	D-150		0.001 0.001
Volume Resistivity	23°C (73°F)	—	D-257	Ohm·m	10·10 ¹⁴
Surface Resistivity	23°C (73°F)	—	D-257	Ohm	10·10 ¹⁵
Wear Property	Velocity	Pressure	ASTM Method	SI (English) Units	Typical Properties
Coefficient of Friction, Unlubricated, Air 25K PV 100K PV	0.7 m/s (134 fpm) 2.0 m/s (400 fpm)	1.3 MPa (187 psi) 1.7 MPa (250 psi)	Falex		0.26 0.15
Water Absorption	—	—	D-570	% weight change	0.08



The miracles of science™

Phone: 800-222-VESP (8377)
Fax: 302-999-2311
E-mail: web-inquiries.DDF@usa.dupont.com

Web: vespel.dupont.com

The data listed here fall within the normal range of properties, but they should not be used to establish specification limits nor used alone as the basis of design. The DuPont Company assumes no obligations or liability for any advice furnished or for any results obtained with respect to this information. All such advice is given and accepted at the buyer's risk. The disclosure of information herein is not a license to operate under, or a recommendation to infringe, any patent of DuPont or others. Since DuPont cannot anticipate all variations in actual end-use conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information.

CAUTION: *This product is not permitted to be sold for use in medical applications involving any implantation in the human body or where contact with internal body fluids or tissues will equal or exceed 24 hours. For applications involving contact of less than 24 hours, see "DuPont Medical Caution Statement" H-50102 or contact your DuPont sales representative.*

Copyright © 2008 DuPont. The DuPont Oval Logo, DuPont™, The miracles of science™, and Vespel® are registered trademarks or trademarks of E.I. du Pont de Nemours and Company or its affiliates. All rights reserved.

K-21982 (11/08) Printed in the U.S.A.



The miracles of science™