

TYPICAL PROPERTIES

VESPEL® TP- 8169



THERMOPLASTIC PARTS FOR HIGH-TEMPERATURE APPLICATIONS

VespeL® TP-8169 is an unfilled thermoplastic polyimide for use in high-temperature environments. This unfilled general-purpose grade offers a unique balance of mechanical and thermal properties for superior performance in aggressive environments.

As part of the VespeL® parts and shapes product line, injection-molded VespeL® TP-8169 parts comply with the highest quality standards required in the industry.

MECHANICAL		TEST METHOD	SI UNITS	ENGLISH UNITS
TENSILE STRENGTH	23°C/73°F	ASTM D-638	91 MPa	13,200 psi
TENSILE ELONGATION	23°C/73°F	ASTM D-638	31%	31%
FLEXURAL STRENGTH	23°C/73°F	ASTM D-790	135 MPa	19,600 psi
FLEXURAL MODULUS	23°C/73°F	ASTM D-790	3.2 GPa	469,000 psi
NOTCHED IZOD 3.2 mm/1/8 in.	23°C/73°F	ASTM D-256	110 J/m	2.0 ft. lb./in.

THERMAL	TEST METHOD	SI UNITS	ENGLISH UNITS
HDT @ 1.8 MPa (264 psi)	ASTM D-648	252°C	486°F
CTE (23-150°C/73-302°F) FLOW DIRECTION	ASTM E-228	5.5x10 ⁻⁵ cm/cm/°C	3.0x10 ⁻⁵ in./in./°F
CTE (23-150°C/73-302°F) TRANSVERSE DIRECTION	ASTM E-228	5.5x10 ⁻⁵ cm/cm/°C	3.0x10 ⁻⁵ in./in./°F
THERMAL CONDUCTIVITY	ASTM C-177	0.17 W/m K	2.32 BTU in./hr. ft.°F

ELECTRICAL PROPERTIES	TEST METHOD	SI UNITS	ENGLISH UNITS
DIELECTRIC CONSTANT @ 1KHz	ASTM D-150	3.2	3.2
DIELECTRIC CONSTANT @ 1MHZ	ASTM D-150	3.1	3.1
DISSIPATION FACTOR @ 1KHz	ASTM D-150	0.0009	0.0009
DISSIPATION FACTOR @ 1MHZ	ASTM D-150	0.0034	0.0034
SURFACE RESISTIVITY	ASTM D-257	E17-E18 Ohms	E17-E18 Ohms
VOLUME RESISTIVITY	ASTM D-257	E17-E18 Ohms-cm	E17-E18 Ohms-cm

FLAMMABILITY	TEST METHOD	SI UNITS	ENGLISH UNITS
VERTICAL BURN TEST 0.4mm	UL-94	V-0	V-0
VERTICAL BURN TEST 2.0mm	UL-94	5VA	5VA
OXYGEN INDEX 3.2mm	ASTM D-2863	47%	47%

OTHER PROPERTIES	TEST METHOD	SI UNITS	ENGLISH UNITS
SPECIFIC GRAVITY	ASTM D-792	1.32	1.32
WATER ABSORPTION (24 hrs. @ 23°C/73°F)	ASTM D-570	0.23%	0.23%
MOISTURE ABSORPTION (24 hrs.)	23°C/73°F 60% RH	0.09%	0.09%



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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."