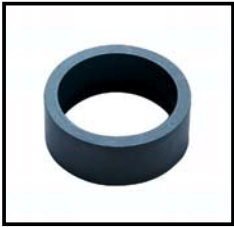


TYPICAL PROPERTIES

VESPEL® TP- 8311



THERMOPLASTIC PARTS FOR HIGH-TEMPERATURE RESISTANCE

VespeL® TP-8311 is a thermoplastic polyimide specifically designed for high-performance wear and friction applications in both dry and lubricated conditions.

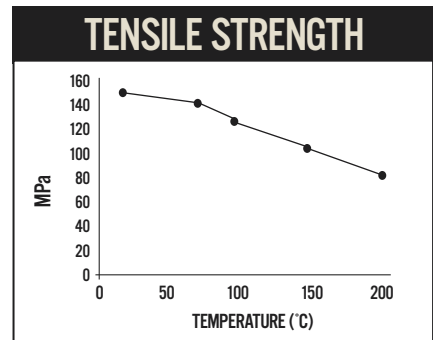
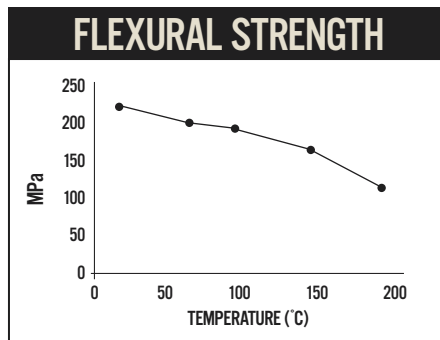
As part of the VespeL® parts and shapes product line, injection-molded VespeL® TP-8311 parts comply with the highest quality standards in the industry.

MECHANICAL		TEST METHOD	SI UNITS	ENGLISH UNITS
TENSILE STRENGTH	23°C/73°F	ASTM D-638	151 MPa	21,900 psi
ELONGATION AT BREAK	23°C/73°F	ASTM D-638	4.0%	4.0%
FLEXURAL STRENGTH	23°C/73°F	ASTM D-790	215 MPa	31,600 psi
FLEXURAL MODULUS	23°C/73°F	ASTM D-790	6.3 GPa	926,000 psi
COMPRESSIVE MODULUS	23°C/73°F	ASTM D-695	3.2 GPa	464,000 psi
NOTCHED IZOD 3.175 mm/1/8 in.	23°C/73°F	ASTM D-256	96 J/m	1.8 ft. lb./in.

THERMAL	TEST METHOD	SI UNITS	ENGLISH UNITS
HDT @ 1.8 MPa (264 psi)	ASTM D-648	244°C	471°F
CTE (23-150°C/73-302°F) FLOW DIRECTION	ASTM E-228	1.7x10 ⁻⁵ cm/cm/°C	0.9x10 ⁻⁵ in./in./°F
CTE (23-150°C/73-302°F) TRANSVERSE DIRECTION	ASTM E-228	5.0x10 ⁻⁵ cm/cm/°C	2.8x10 ⁻⁵ in./in./°F

WEAR AND FRICTION	TEST METHOD	SI UNITS	ENGLISH UNITS
PV LIMIT (DRY)	DuPont	4.8 MPa m/s	136,000 psi-fpm
PV LIMIT (LUBRICATED)	DuPont	14 MPa m/s	400,000 psi-fpm
COEFFICIENT OF FRICTION (DRY)	—	0.15-0.18	0.15-0.18

OTHER PROPERTIES	TEST METHOD	SI UNITS	ENGLISH UNITS
SPECIFIC GRAVITY	ASTM D-792	1.38	1.38
WATER ABSORPTION (24 hrs. @ 23°C/73°F)	ASTM D-570	0.11%	0.11%



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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."