

VESCONITE

Material Data Sheet

Typical Properties	VESCONITE (Standard)		VESCONITE HiLube	
	Metric Units	Imperial American Units	Metric Units	Imperial American Units
Operating temperature (continuous) - Wet	80 °C	176 °F	80 °C	176 °F
Operating temperature (continuous) - Dry	100 °C	212 °F	100 °C	212 °F
Melting point	260 °C	500 °F	260 °C	500 °F
Maximum moisture absorption in water (Water Swell)	0.5 % at 20°C	0.5 % at 68°F	0.5 % at 20°C	0.5 % at 68°F
Equilibrium moisture absorption in air (50% RH)	0.2 % at 23°C	0.2 % at 73.4°F	0.2 % at 23°C	0.2 % at 73.4°F
Maximum (slow speed) design load limit (depends on application) (<80°C/<176°F)	30 MPa	4,351 psi	30 MPa	4,351 psi
Dynamic unlubricated friction coefficient on steel	0.12 - 0.20	0.12 - 0.20	0.10	0.10
Static unlubricated friction coefficient on polished steel (No Lube)	0.20	0.20	0.09	0.09
Coefficient of linear thermal expansion	6 mm/mm/°C x 10 ⁻⁵	3.3 in/in/°F x 10 ⁻⁵	6 mm/mm/°C x 10 ⁻⁵	3.3 in/in/°F x 10 ⁻⁵
Deflection temperature at 1.85 MPa (269 psi)	93 °C	199 °F	117 °C	243 °F
Compression strength at yield	98 MPa	14,214 psi	99 MPa	14,359 psi
Modulus of elasticity under compression	2290 MPa	332,136 psi	2206 MPa	319,953 psi
Tangent modulus of elasticity (D790)	3400 MPa	493,128 psi	3726 MPa	540,410 psi
Hardness (Shore D)	84	84	82	82
Tensile strength at yield (D638)	65 MPa	9427 psi	66 MPa	9572 psi
Tensile strength at break	62 MPa	8992 psi	65 MPa	9427 psi
Elongation at break	26%	26%	58%	58%
Shear strength	49 MPa	7,107 psi	49.4 MPa	7,165 psi
Flexural yield strength	120 MPa	17,405 psi	113 MPa	16,389 psi
Notched impact strength Charpy (D256)	33 J/M	24.3 ft-lbs/in	26 J/M	19.2 ft-lbs/in
Notched impact strength IZOD (D256)	16 J/M	11.8 ft-lbs/in	30 J/M	22.1 ft-lbs/in
Density (Specific Gravity)	1.38	1.38	1.38	1.38
Thermal conductivity	0.3 W/ (K.m)	2 BTU-in/f ² -hr-°F	0.3 W/ (K.m)	2 BTU-in/f ² -hr-°F
Dielectric strength	14 kV/mm	360 V/mil	14 kV/mm	360 V/mil
Gamma Ray resistance - 50% loss of properties	100 Mrads	100 Mrads	100 Mrads	100 Mrads

The above data should be taken for indicative purposes only, as physical properties are altered to some extent by processing conditions and the thermal history of the material.

For chemical resistance information visit the VESCONITE web site link @ www.hydro-watt.com

VESCONITE and VESCONITE HiLube does not contain any asbestos or other dangerous fillers and does not pose a carcinogenic risk.

VESCONITE and VESCONITE HiLube does not present a hazard in handling, can be safely left in land fills without leaching into ground waters.

For **design and sizing**
assistance contact:

Hydro-Watt

Phone: **(530) 265-5099**
Fax: (530) 265-9411
e-mail: vesconite@hydro-watt.com

Vesconite Standard and HiLube Chemical Resistance Data

😊 Resistant

😬 Partially resistant

😞 Not resistant

Chemical Resistance	%	73°F	140°F	Chemical Resistance	%	73°F	140°F
Acetic acid	5	😊	😬	Methanol		😊	
	10	😊	😬	Methylene chloride		😞	😞
	100	😬	😬	Methyl ethyl ketone		😊	😞
Acetone		😊		Mineral Oils		😊	😊
Ammonium hydroxide	10	😞		Motor oils		😊	😊
	conc	😞		Nitric acid	10	😊	😞
Aniline		😊			40	😞	😞
Benzene		😊	😞		70conc	😞	😞
Bleaching lye		😊	😊	Oleic acid	100	😊	😊
Brake fluid		😊	😊	Olive oil		😊	😊
Butane		😊		Perchloroethylene		😊	😊
Butanol		😬	😬	Petrol		😊	
Butyl acetate		😊	😊	Phenol		😬	😞
Calcium chloride	10	😊	😊	Phosphoric acid	3	😊	😊
Calcium hypochlorite		😊	😊		30	😊	😊
Carbon disulphide		😊			85conc	😊	😊
Carbon tetrachloride		😊		Potassium chloride	10	😊	😊
Chloroform		😞		Potassium dichromate	10	😊	
Chromic acid	40	😊	😊	Potassium hydroxide	1	😊	😬
Citric acid	10	😊	😊		10	😬	😞
Cottonseed oil		😊	😊		60	😞	😞
Cresol		😞	😞	Potassium permanganate	10	😊	
Detergents	1	😊	😊	Silicone fluids		😊	😊
	25	😊	😊	Soap solutions	1	😊	😊
Dibutyl phthalate		😊	😊	Sodium bicarbonate	10	😊	😊
Diesel oil		😊		Sodium bisulphite	10	😊	😊
Dioxane		😊	😞	Sodium carbonate	10	😊	😊
Ethanol		😊			20	😊	😊
Ether (diethyl-)		😊		Sodium chloride	10	😊	😊
Ethyl acetate		😊		Sodium hydroxide	1	😊	😬
Ethylene dichloride		😞			10	😬	😞
Freon 11		😊			60	😞	😞
Formic acid	5	😊	😬	Sodium hypochlorite	10	😊	😊
	90	😬	😞	Sulphuric acid	3	😊	😊
Glycerol (Glycerine)		😊	😊		30	😊	😊
Glycol		😊	😬		98	😞	😞
Grease		😊	😊	Tetrahydrofuran		😬	
Heptane		😊		Toluene		😊	
Hexane		😊	😊	Transformer oil		😊	😊
Hydrochloric acid	10	😊	😬	Trichlorethylene		😬	
	conc	😞	😞	Turpentine		😊	
Hydrofluoric acid	5	😊	😬	Vaseline		😊	😊
	50	😞	😞	Vegetable oils		😊	😊
Hydrogen peroxide	3	😊		Water		😊	😊
	30	😊		White spirit		😊	
Isopropanol		😬	😬	Xylene		😊	😊
Kerosene		😊					

For additional information and clarification contact Hydro-Watt at www.hydro-watt.com

VESCONITE

Material Data Sheet

Typical Properties	VESCONITE HiTemp 150		VESCONITE HiTemp 230	
	Metric Units	Imperial American Units	Metric Units	Imperial American Units
Operating temperature (continuous) - Wet (Steam)	120 °C	248 °F	120 °C	248 °F
Operating temperature (continuous) - Dry	150 °C	302 °F	200 °C	392 °F
Short term temperature limit	170 °C	338 °F	250 °C	482 °F
Melting point	265 °C	509 °F	282 °C	539.6 °F
Maximum moisture absorption in water (at ambient)	0.5 % at 20°C	0.5 % at 68°F	0.03 % at 20°C	0.03 % at 68°F
PV limit	30 Mpa m/min	14,350 psi ft/min	70 Mpa m/min	33,483 psi ft/min
Coefficient of friction (at ambient)	0.14	0.14	0.17	0.17
Coefficient of linear thermal expansion	4 mm/mm/°C x 10 ⁻⁵	2.2 in/in/°F x 10 ⁻⁵	2.7 mm/mm/°C x 10 ⁻⁵	1.5 in/in/°F x 10 ⁻⁵
Chemical Resistance (Contact Vesconite for specifics)	Strong resistance to ALKALIS / Poor to Acids		Generally High	
Deflection temperature at 1.8 MPa (269 psi)	256 °C	493 °F	260 °C	500 °F
Design Loading			80 MPa	11,603 psi
Flexural Modulus (Dry)	8000 MPa	1,160,302 psi	8800 MPa	1,276,332 psi
Tensile strength (Dry)	140 MPa	20,305 psi	130 MPa	18,855 psi
Flexural yield strength	120 MPa	17,405 psi	113 MPa	16,389 psi
Density (Specific Gravity)	1.47	1.47	1.69	1.69
Gamma Ray resistance - 50% loss of properties	10 Mrads	10 Mrads	1000 Mrads	1000 Mrads

The above data should be taken for indicative purposes only, as physical properties are altered to some extent by processing conditions and the thermal history of the material.

For chemical resistance information visit the VESCONITE web site link @ www.hydro-watt.com

Note: Although there are thousands of size combinations available, Vesconite HiTemp products are normally available on a special order basis.
-- Please call for availability.

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VESCONITE HiTemp 150 and HiTemp 230 does not present a hazard in handling, can be safely left in land fills without leaching into ground waters.

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