

DPDM-400 High Temperature Down-Hole Silicone Fluid

Operating Temperature Range: 25°C to 250°C (open system) / 25°C to 300°C (closed system)



DPDM-400 High Temp Downhole Silicone Fluid remains stable at 300°C and withstands high pressure environments.

DPDM-400 High Temperature Down-Hole Silicone Fluid is a clear, colorless silicone fluid that is classified as a Dimethyl-Diphenylsiloxane (CAS # 68083-14-7) with a viscosity of 400cSt @ 25°C. It is formulated for use as a heat transfer medium for high temperature ranging from 25°C to 300°C (closed system*).

DPDM-400 High Temperature Down-Hole Silicone Fluid is an excellent fluid for the ever harsher environments in the Downhole Oil and Gas Industries. It is characterized by its high temp stability (300°C closed system), high flash point, stability at extremely high pressures, high resistance to oxidation, high dielectric strength, long service life, and hydrophobic nature (insoluble in water). When heated, the fluid's viscosity will lower quickly, allowing it to be easily pumped.

Unlike conventional fluids like mineral oil, DPDM-400 will not coagulate under pressure. Even at high pressures of 4,000MPa, the fluid will not solidify.

DPDM-400 High Temperature Down-Hole Silicone Fluid has a Thermal Conductivity value of 0.00032g/cal/cm/sec °C. Its specific heat value is 0.35 (cal/g °C @ 25°C.)

When compared to mineral oils, glycols and Polydimethylsiloxane fluids (PSF-Fluids), DPDM-400 Down-Hole Silicone Fluid exhibits much higher thermal stability and resistance to oxidation. Although it is more expensive, it will provide a much longer service life at elevated temperatures.

* Closed system baths are systems from which air has been excluded.

Features

- Excellent High Temp Performance
- Service range: 25°C to 315°C (closed system)
- High Oxidation Resistance
- Non-Flammable
- High Temperature fluid for Downhole gauges, sensors and instruments.
- High Dielectric strength –dielectric fluid in capacitors
- High Pressure Fluid
- High Dielectric Strength
- Compatible with virtually all o-rings, gaskets, valves, seals, and hoses *
- VOC Exempt

Not recommended for silicone o-rings where the fluid may cause swelling

Properties

Appearance: clear, colorless, odorless fluid	Thermal Gel Time (open system) @ 250°C.....1,500 to 2,000 hours @ 260°C.....>200 hours
Pour Point °C.....-30°C Flashpoint.....315°C	Specific Heat @ 25C.....0.35 cal/g°C, 25°C
Specific Gravity.....1.07 Refractive index.....1.505	Thermal Conductivity (cal/cm/sec °C).....0.00032
Volatility, % wt loss 24 hours @ 150°C.....max 0.3%	Thermal Expansion (cc/cc/C).....0.00073
Thermal Expansion (cc/cc/C).....0.00073	Surface Tension (dynes/cm).....25.2
Dielectric Properties Breakdown Voltage (KV/2.5mm)....>50 Dielectric Constant (50 Hz).....2.88 Dissipation Factor (50 Hz).....<0.0005	

Viscosity/Temp Specs.

Viscosity/Temp Coefficient.....0.82
Viscosity @25°C.....400cSt (mm2/sec)
Viscosity @ temperature
@ 250°C.....7cSt (mm2/sec)
@ 200°C.....11cSt
@ 100°C.....46cSt
@ 50°C.....167cSt
@ 25°C.....400cSt
@ 0°C.....1,770cSt
@ -25°C.....24,800cSt

Packaging

1-gallon.....4kg
5-gallon pail.....20kg
55-gallon drum200kg
F.O.B. Phila, PA U.S.A.

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