



DPDM-400 High Temperature Silicone Heat Transfer 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 for Geothermal and Gas Exploration.

DPDM-400 High Temperature Silicone Heat Transfer 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 Silicone Heat Transfer Fluid is characterized by its high flash point, high service temperature range, low vapor pressure, high resistance to oxidation, high dielectric strength and hydrophobic nature (insoluble in water). It has a high VTC (viscosity-to-temperature coefficient) so its viscosity will lower quickly when heated, allowing for the fluid to be easily pumped.

DPDM-400 High Temperature Silicone Heat Transfer 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 Polydimethylsiloxane fluids (PSF-Fluids), DPDM-400 exhibits much higher thermal stability. Although it is more expensive, it will provide a very long service life.

Applications include: high temp heat transfer, high temperature open system baths, high temperature closed system baths, constant temperature baths, high temperature circulating baths, high temp closed loop baths, high temperature heat transfer baths, high temperature fluids for laboratory research apparatus and instruments.

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

Properties

| | |
|----------------------------------|----------------------------------|
| Appearance: | clear, colorless, odorless fluid |
| Pour Point °C..... | -30°C |
| Flashpoint..... | 315°C |
| Specific Gravity..... | 1.07 |
| Refractive index..... | 1.505 |
| Surface Tension (dynes/cm)..... | 25.2 |

Features

- Formulated for High Temperature Stability for use in laboratory research apparatus and instruments
- High Oxidation Resistance.
- High Dielectric strength –dielectric fluid in capacitors
- High RI Value for optical applications
- Compatible with virtually all O-rings, gaskets, valves, seals, and hoses *

May cause swelling in silicone O-Rings

Thermal Properties

| | |
|---------------------------------------|--------------------------|
| Specific Heat @25C..... | 0.35 cal/g °C, |
| Thermal Conductivity..... | 0.00032 g cal/cm•sec• °C |
| Thermal Expansion..... | 0.00073 cc/cc °C |
| Thermal Gel Time (open system) | |
| @ 250°C..... | 1,500 to 2,000 hours |
| @ 260°C..... | >200 hours |
| Volatility, % wt loss | |
| 24 hours @ 150°C..... | max 0.3% |

Dielectric Properties

| | |
|-----------------------------------|---------|
| Breakdown Voltage (KV/2.5mm)..... | >50 |
| Dielectric Constant (50 Hz)..... | 2.88 |
| Dissipation Factor (50 Hz)..... | <0.0005 |

Packaging

| | |
|-----------------------------------|---------------|
| 1-gallon (3.78 liters) | 4kg net wt. |
| 5-gallon pail (18.9 liters) | 20kg net wt. |
| 55-gallon drum (208 liters) | 200kg net wt. |

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Viscosity/Temp Specs.

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

For More Info, Contact:

Clearco Products Co., Inc.

15 York Road
Willow Grove, PA 19090
U.S.A.

Tel: (215) 366-7860

Fax: (215) 366-7862

Email: info@clearcoproducts.com

Web: www.clearcoproducts.com