

DPDM-400 High Temperature Heat Transfer Fluid

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



DPDM-400 High Temperature Silicone Heat Transfer Fluid has a service life of 25°C to 300°C.

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.

Features

- Excellent High Temp Performance
- Service range: 25°C to 315°C (closed system)
- High Oxidation Resistance
- Non-Flammable
- High Temperature bath fluid for laboratory research apparatus and instruments.
- High Dielectric strength –dielectric fluid in capacitors
- High Temperature heat transfer applications
- 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

Pour Point °C.....-30°C
Flashpoint.....315°C

Specific Gravity.....1.07
Refractive index.....1.505

Volatility, % wt loss
24 hours @ 150°C.....max 0.3%

Thermal Expansion (cc/cc/C).....0.00073

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

Thermal Gel Time (open system)
@ 250°C.....1,500 to 2,000 hours
@ 260°C.....>200 hours

Specific Heat
@ 25C.....0.35 cal/g°C, 25°C

Thermal Conductivity
(cal/cm/sec °C).....0.00032

Thermal Expansion (cc/cc/C).....0.00073

Surface Tension (dynes/cm).....25.2

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 / 8.8lb
5-gallon pail.....20kg / 44 lb
55-gallon drum200kg quote upon request

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