



PM-125 High Temperature Silicone Bath Fluid

Recommended Operating Temperature: 25°C to 230°C (open system) / 25°C to 300°C (closed system)



PM-125 Hi Temp Silicone Bath Fluid exhibits extraordinary high temperature performance in open and closed system baths.

PM-125 High Temperature Silicone Bath Fluid is a Phenylmethylsiloxane (CAS#63148-52-7) with a viscosity of 125cSt @ 25C. The fluid is clear, colorless, and odorless.

PM-125 is characterized by its high flash point, low viscosity, stability at high temperature, low vapor pressure, high resistance to oxidation and high resistance to shear. It is an excellent high temperature bath fluid and high temperature heat transfer fluid.

In open system baths (presence of air), PM-125 High Temp Silicone Bath Fluid has an operating temperature range of 25°C to 230°C. In closed system baths*, the operating range is 25°C to 300°C.

Although it has a pour point of -51°C, PM-125 is not recommended for low temperatures bath systems. At temperatures below ambient, PM-125 has an acutely higher viscosities (see Viscosity/temp specs and is not recommended for baths that have to circulate or pump.

When compared to conventional PDMS silicone fluids, PM-125 High Temperature Bath Fluid exhibits much higher thermal stability and resistance to oxidation. Although it is more expensive, it provides a much longer service life at elevated temperatures.

Bath Applications include: 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.

Features

- Excellent High Temp Performance
 - Service range: 25°C to 230°C (open system)
 - Service range: 25°C to 300°C (closed system)
 - High Oxidation Resistance
 - 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
- * May cause swelling in silicone O-Rings

Thermal Properties

Thermal Gel Time (open system)	
months @ 200°C.....	14 months
hours @ 250°C.....	1,200 hours
hours @ 260°C.....	200 hours

Specific Heat

@ 0°C.....	1.418 kJ/kg K
@ 40°C.....	1.498kJ/kg. K
@ 100°C.....	1.615 kJ/kg. K
@200°C.....	1.812 J/kg. K

Thermal Conductivity

@ 50°C.....	0.00036g/cal/cm/sec °C
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Dielectric Properties

Dielectric Strength:.....	400 volts/mil
Dielectric Constant 25°C @ 100Hz.....	2.90
Dissipation Factor @ 25°C:.....	0.0005
Volume Resistance @ 25°C.....	1 x 10 ¹⁴

Properties

Pour Point °C.....	-51°C
Flashpoint.....	315°C
Ignition Temperature.....	482°C
Surface tension.....	24.5
Specific Gravity.....	1.07
Refractive index.....	1.500
Viscosity/Temp Coefficient.....	0.76
Viscosity @25C.....	125cSt
<u>Viscosity @ temperature</u>	
@ 99°C.....	20cSt (mm2/sec)
@ 38°C.....	84cSt (mm2/sec)
@ -29°C.....	22,000cSt (mm2/sec)
<u>Volatility (open system)</u>	
12 months @ 150C.....	4%
12 months @ 200C.....	15%
4 hours @ 250C.....	1.2%
48 hours @ 250C.....	5.5%

Vapor pressure vs. Temperature

@ 228°C.....	11 Pa
@ 244°C.....	25 Pa
@ 263°C.....	84 Pa
@ 277°C.....	155 Pa
@ 380°C.....	13,332 Pa

(1mm Hg = 133.322Pa)

Volume Expansion vs. temperature

-18°C to 149°C.....	0.00075
150°C to 204°C.....	0.00077
205°C to 260°C.....	0.00080

Compressibility

@ 7MPa.....	0.5%
@ 20MPa.....	1.4%
@ 35MPa.....	2.3%
@ 50MPa.....	3.0%
@ 75MPa.....	4.2%
@ 100MPa.....	5.2%
@ 150MPa.....	6.8%

Packaging

1-gallon.....	4kg net wt.
5-gallon pail.....	20kg net wt.
55-gallon drum.....	220kg net wt.

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