

# SILICONE HEAT SINK COMPOUND

## Chemplex 1381

## Product Description

### DESCRIPTION

**Chemplex 1381** Heat Sink Compound is a silicone fluid based, grease-like material specially blended with fine thermally conductive metal oxide powders resulting in very high thermal conductivity, low bleed and excellent high temp stability. **Chemplex 1381** will not harden, melt, or dry out and will tenaciously adhere to metal surfaces even when exposed to high temps for extended periods of time.

### APPLICATIONS

When energized, many electrical/electronic devices become warm, even hot to the touch. This heat can become detrimental to the performance and life of heat sensitive electrical parts. **Chemplex 1381** is commonly used as an interface to facilitate the transfer of heat from the electrical device to the heat sink or chassis. **Chemplex 1381** removes or transfers heat from one area to another. Also used to even out temps from local high temp areas by conducting heat to larger, cooler areas. **Use Chemplex 1381** on transistors, diodes, rectifiers and transformers in the electronic industry. If a non-silicone heat sink compound is required please ask about our **Chemplex NS 2736** product.

### CHARACTERISTICS

Property	Test Method	Condition	Typical Value
Appearance			White/Opaque paste
Worked Penetration	ASTM D-217		290
Bleed, %	FTM-791.321-3	24 hrs. @ 200° C	0.1
Evaporation, %	FTM-791.321-3	24 hrs. @ 200° C	0.3
Solidification Point, ° F	D-1478	Start Torque > 10,000 g.cm	68
Low Temp Torque	D-1478	-65° F g/cm	Starting 7000
Dropping Point °F (°C)	D-2265		> 500 (260)
Water Washout, %	D-1264	1 hr. @ 100° F	0.4
Thermal Conductivity	Modified D.S.C.	36° C @ 1 sec.	$1.8 \times 10^{-3}$ cal/sec/cm <sup>-1</sup> °K
Dielectric Strength, volts/mil	ASTM D-149	0.05" Gap	405
		0.01" Gap	600
Dielectric Constant	ASTM D-150	50 Hz	4.93
		1000 Hz	4.90
Dissipation Factor	ASTM D-150	50 Hz	0.005
		1000 Hz	0.001
Volume Resistivity, Ohm-cm	ASTM D-257	RT	$1.88 \times 10^{13}$
		177° C	$1.30 \times 10^{12}$
Arc Resistance, sec	ASTM D-495	RT	77
Specific Gravity		25° C/25° C	0.96
Temperature Range			-40 to 204°C (-65 - 400°F)
Breakdown Voltage, volts	ASTM D-149	0.05" Gap	20,500
		0.01" Gap	6,100
Volume Resistivity, ohm-cm	ASTM D-257		$2 \times 10^{15}$
Meets Mil-C-47113			

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### **AVAILABILITY**

**Chemplex 1381** is available in 1.5 ounce jars, 8 oz tubes, 80 pound pails, 275 pound drums. Each size is subject to stock. Unique package sizes available upon request.

### **How to Use**

**Chemplex 1381** can be applied by various methods including automated pumping systems, by hand, by brushing, or by wiping.

### **STORAGE**

The compound should be stored at 75°F or below. **Chemplex 1381** has a shelf life of 2 years from date of shipment when stored in sealed container at 75°F or below. Extended storage life is probable, but the compound should be checked for consistency before use.

### **CLEANING**

Spilled silicone greases and compounds will cause slippery conditions. Wipe up and clean spills immediately to prevent possible injury.

Silicone greases and compounds may be cleaned with the use of hydrophobic solvents (non-polar) such as chlorinated ethanes, toluene, hexane, or mineral spirits. They are generally unaffected by hydrophilic solvents (polar) such as alcohols, ketones, ethers, or water.

Whenever solvents are used all proper safety precautions must be observed. It is advisable to consider all solvents toxic and use them only in well ventilated areas with proper protective equipment such as goggles, gloves, clothing, and respirators. Avoid prolonged exposure to solvents. Be aware of their flammability status.

Consult applicable OSHA, EPA and other federal, state and local regulations on the use and disposal of solvents.

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