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Products / Interface Materials / Greases

Thermal Greases

Sil-Free™ RoHS Compliant
Silicon free synthetic thermal grease

Ther-O-Link RoHS Compliant
Silicon based thermal grease

Ultrastick RoHS Compliant
Silicon free solid phase change compound in convenient application bar

Conducta-Cote™ RoHS Compliant
Condutive thermal grease on a pre-coated alum carrier

Thermalcote™ RoHS Compliant
Silicon free thermal compound in a synthetic base fluid for efficient application

Sil-Free™

Sil-Free™ 1020 is a metal-oxide-filled, silicone-free synthetic grease specially formulated to enhance heat transfer across the interface between the semiconductor case and the heat sink without the migration or contamination associated with silicone-based products.

Dry interface case-to-sink thermal resistance is typically reduced 50% to 75% with proper application of Sil-Free™ 1020.

This virtually "no-bleed", high-performance compound will not dry out, harden, melt, or run, even after long-term continuous exposure to temperatures up to 200°C. Even in a vacuum atmosphere (10^{-5} Torr, 24 hours@100°C), Sil-Free™ 1020 exhibits virtually "no bleed" or evaporation.

Color	White
Thermal Conductivity	0.79 W/(m-°C)
Operating Temperature Range	-40°C to 200°C
Volume Resistivity	2.3 x 10^{12} Ohm-cm
Weight	47.5 grams
Dielectric Strength	225 Volts/mil
Consistency	Paste
Bleed	0.09 max

Sil-Free™ Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

Specific Gravity	2.8
Shelf Life	Indefinite[1] (unopened)

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Sil-Free in PDF format
104K

Ordering Information

Part Number	RoHS	PCN	Package	Size
101700F00000G	RoHS ✓ Compliant	Product Change Notice	Syringe	43 grams (1.5 Oz.)
101800F00000G	RoHS ✓ Compliant	Product Change Notice	Tube	57 grams (2.0 Oz.)
101900F00000G	RoHS ✓ Compliant	Product Change Notice	Jar	57 grams (2.0 Oz.)
102000F00000G	RoHS ✓ Compliant	Product Change Notice	Tube	143 grams (5.0 Oz.)
102100F00000G	RoHS ✓ Compliant	Product Change Notice	Jar	457 grams (16.0 Oz.)

Ther-O-Link

Ther-O-Link is a silicone-based thermal compound that cost effectively enhances the heat transfer between a semiconductor case and a heat sink. Easy to apply, Ther-O-Link substantially reduces dry interface thermal resistance, while providing long life under a variety of conditions.

Color	White
Thermal Conductivity	0.73 W/(m-K)
Operating Temperature Range	-40°C to 200°C
Volume Resistivity	1.0 x 10^{15} Ohm-cm
Dielectric Strength	250 Volts/mil
Consistency	Paste

Ther-O-Link Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

Bleed	0.6 max
Specific Gravity	2.8
Shelf Life	Indefinite[1] (unopened)

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Ther-O-Link in PDF format 104K

Ordering Information

Part Number	RoHS	PCN	Package	Size
100000F00000G	RoHS ✓ Compliant	Product Change Notice	Ampule	1g.
100100F00000G	RoHS ✓ Compliant	Product Change Notice	Syringe	35.7 grams (1.25 Oz.)
100200F00000G	RoHS ✓ Compliant	Product Change Notice	Tube	57 grams (2.0 Oz.)
100500F00000G	RoHS ✓ Compliant	Product Change Notice	Tube	143 grams (5.0 Oz.)
100800F00000G	RoHS ✓ Compliant	Product Change Notice	Can	228.6 grams (8.0Oz.)
101600F00000G	RoHS ✓ Compliant	Product Change Notice	Can	.45 kg (1 lb)
108000F00000G	RoHS ✓ Compliant	Product Change Notice	Can	2.27 kg (5 lb)
132000F00000G	RoHS ✓ Compliant	Product Change Notice	Can	9.07 kg (20 lb)

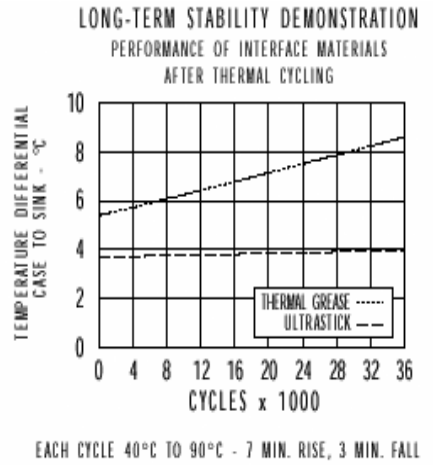
Ultrastick
Part Number: 100300F00000G

RoHS ✓ Compliant Product Change Notice

Download PDF Datasheet

Aavid's Ultrastick is a unique phase-change thermal interface material that surpasses grease in thermal performance and long-term stability. This solid, silicone-free, paraffin-based thermal compound changes phase at 60°C, with a concurrent volumetric expansion that fills gaps between the mating surfaces. Ultrastick comes in

a convenient applicator bar, allowing for neat, fast application to both heat sink and component surfaces. One cost-effective application leaves a thin, film-like deposit, providing excellent heat transfer and low interface thermal resistance.



Temperature	200°
Volume Resistivity	1.0 X 1.0^{15} Ohm-cm
Dielectric Strength	250 volts/mil
Consistency	Paste
Bleed	0.6 max
Specific Gravity	0.28
Color	Opaque White
Operating Temperature Range	-40°C to 200°C
Thermal Resistance	0.03ºC/W per square inch @ 20 psi 0.02ºC/W per square inch @ 100 psi
Shelf Life	Indefinite

Application Instructions for Ultrastick

MSDS Safety Sheet for Ultrastick in PDF format 684K

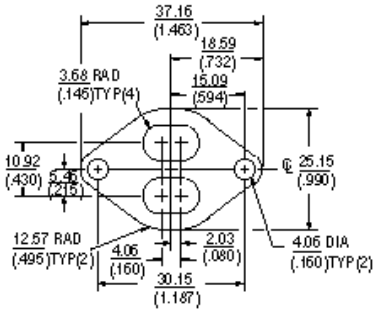
Conducta-Cote™

Conducta-Cote™ is

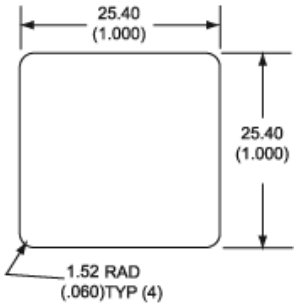
used where grease application is needed without an insulator. It performs like a greased bare joint application.

- Pre-coated thermal grease aluminum carrier.
- Save money by elimination of hand application of thermal grease.
- Provides uniform coating for maximum heat transfer (.025mm (.001") minimum).
- Eliminates contaminants.
- Aluminum carrier .10mm (.004") thick.

For TO-3
Part Number:57-03-2CAP



For Pentium
Part Number:57-77-1



Thermalcote™

Thermalcote™ is a superior thermal joint compound of thermally-loaded silicone-based grease for use with all heat sinks. It improves the transfer of thermal energy across the metal-to-metal interfaces between the transistor or rectifier case and the heat sink. Thermalcote conducts heat approximately 15 times better than air and more than 4 times better than unloaded silicone grease. It is non-toxic, extremely stable, and neither cakes nor runs from -40° to 204°C (-40°F to 399°F).

Thermalcote Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

Color	Opaque White
Operating Temperature Range	-40°C to 204°C (-40°F to 399°F).
Thermal Conductivity	0.765$Wm^{-1}°C^{-1}$ (0.442 Btu/hr ft °F
Dialectic strength 1.27 mm gap(0.050" gap)	11.8 x 10^3volts/mm (300volts/mil)
Cleaning solvent	Mineral Spirits or Turpentine
Specific gravity	1.6
Evaporation, 24 hours@200°C (392°F), wt%	1
Shelf Life	Indefinite[1] (unopened)

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Thermalcote in PDF format 41K

Part No.	RoHS	PCN	Net Weight
249	RoHS ✓ Compliant	Product Change Notice	28 grams (1 oz) tube
250G	RoHS ✓ Compliant	Product Change Notice	57 grams (2 oz) tube
251G	RoHS ✓ Compliant	Product Change Notice	.45Kg. (1 lb) can
252G	RoHS ✓ Compliant	Product Change Notice	2.27Kg. (5 lbs) can
253G	RoHS ✓ Compliant	Product Change Notice	4.54Kg. (10 lbs) can

Thermalcote™II

Thermalcote™ II was developed as the sensible alternative to silicone-based thermal greases. Thermalcote II employs a highly conductive synthetic base fluid that enables the finished product to exhibit the same thermal characteristics as the silicone-based products.

Thermalcote II contains no silicone. The high lubricity of the base oil permits efficient application to both semiconductor case or

Thermalcote™ II Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm^2
Enter the grease thickness:	mm
	Calculate
Interface Resistance =	

Formula

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

heat sink, and it will effectively fill the microscopic air gaps on the metal-to-metal mating surfaces. It is non-toxic, extremely stable, and neither cakes nor runs from -40° to 200°C (-40°F to 392°F).

Color	Blue
Operating Temperature Range	-40°C to 200°C (-40°F to 392°F).
Thermal Conductivity	0.699$Wm^{-1}°C^{-1}$ (.204 Btu/hr ft °F
Dialectic strength 1.27 mm gap(.050" gap)	7.9 x 10^3volts/mm (200volts/mil)
Cleaning solvent	Mineral Spirits or Turpentine
Specific gravity	2.93@60°F(15.6°C)
Evaporation, 24 hours@200°C (392°F), wt%	0.6 max
Shelf Life	Indefinite[1] (unopened)

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.

MSDS Safety Sheet for Thermalcote II in PDF format 41K

Part No.	RoHS	PCN	Net Weight
349G	RoHS ✓ Compliant	Product Change Notice	28 grams (1 oz) tube
350G	RoHS ✓ Compliant	Product Change Notice	57 grams (2 oz) jar
351G	RoHS ✓ Compliant	Product Change Notice	.45Kg. (1 lb) can