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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**  
Conductive 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<sup>-5</sup> Torr, 24 hours@100°C), Sil-Free™ 1020 exhibits virtually "no bleed" or evaporation.

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

### Sil-Free™ Resistance Calculator

Enter the area of the device that will contact the heat sink:	<input type="text"/>	mm <sup>2</sup>
Enter the grease thickness:	<input type="text"/>	mm
		<input type="button" value="Calculate"/>
<b>Interface Resistance =</b>	<input type="text"/>	

### Formula

Specific Gravity	2.8
Shelf Life	Indefinite <sup>1</sup> (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		Syringe	43 grams (1.5 Oz.)
101800F00000G	RoHS  Compliant		Tube	57 grams (2.0 Oz.)
101900F00000G	RoHS  Compliant		Jar	57 grams (2.0 Oz.)
102000F00000G	RoHS  Compliant		Tube	143 grams (5.0 Oz.)
102100F00000G	RoHS  Compliant		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 <sup>15</sup> 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:	<input type="text"/>	mm <sup>2</sup>
Enter the grease thickness:	<input type="text"/>	mm
<input type="button" value="Calculate"/>		
<b>Interface Resistance =</b>		<input type="text"/>

Formula

















<b>Bleed</b>	0.6 max
<b>Specific Gravity</b>	2.8
<b>Shelf Life</b>	Indefinite <sup>1</sup> (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			Ampule	1g.
100100F00000G			Syringe	35.7 grams (1.25 Oz.)
100200F00000G			Tube	57 grams (2.0 Oz.)
100500F00000G			Tube	143 grams (5.0 Oz.)
100800F00000G			Can	228.6 grams (8.0Oz.)
101600F00000G			Can	.45 kg (1 lb)
108000F00000G			Can	2.27 kg (5 lb)
132000F00000G			Can	9.07 kg (20 lb)

#### Ultrastick

Part Number: 100300F00000G

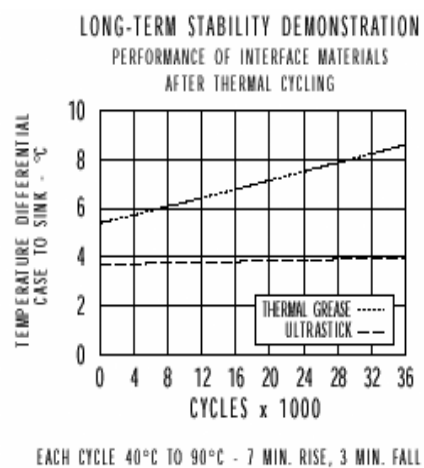
 RoHS Compliant

 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.



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

[Application Instructions for Ultrastick](#)

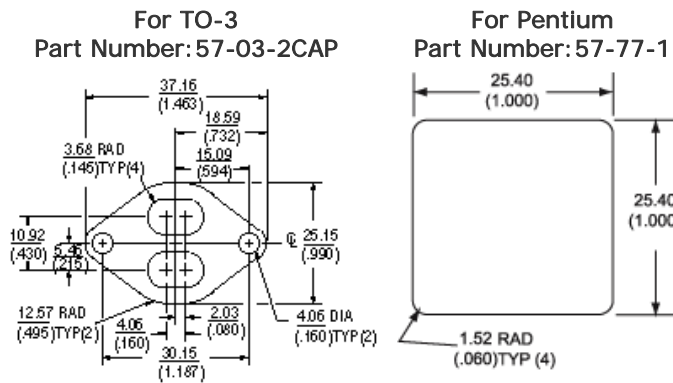
[MSDS Safety Sheet for Ultrastick in PDF format 684K](#)

**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.



**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:	<input type="text"/>	mm <sup>2</sup>
Enter the grease thickness:	<input type="text"/>	mm
<input type="button" value="Calculate"/>		
<b>Interface Resistance =</b>	<input type="text"/>	











**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	0.765Wm <sup>-1</sup> °C <sup>-1</sup> (0.442 Btu/hr ft °F)
Dialectic strength 1.27 mm gap(0.050" gap)	11.8 x 10 <sup>3</sup> volts/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 <sup>1</sup> (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			28 grams (1 oz) tube
250G			57 grams (2 oz) tube
251G			.45Kg. (1 lb) can
252G			2.27Kg. (5 lbs) can
253G			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:	<input type="text"/>	mm <sup>2</sup>
Enter the grease thickness:	<input type="text"/>	mm
	<input type="button" value="Calculate"/>	
<b>Interface Resistance =</b>	<input type="text"/>	

### 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).

<b>Color</b>	Blue
<b>Operating Temperature Range</b>	-40°C to 200°C (-40°F to 392°F).
<b>Thermal Conductivity</b>	0.699Wm <sup>-1</sup> °C <sup>-1</sup> (.204 Btu/hr ft °F)
<b>Dialectic strength 1.27 mm gap(.050" gap)</b>	7.9 x 10 <sup>3</sup> volts/mm (200volts/mil)
<b>Cleaning solvent</b>	Mineral Spirits or Turpentine
<b>Specific gravity</b>	2.93@60°F(15.6°C)
<b>Evaporation, 24 hours@200°C (392°F), wt%</b>	0.6 max
<b>Shelf Life</b>	Indefinite <sup>1</sup> (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			28 grams (1 oz) tube
350G			57 grams (2 oz) jar
351G			.45Kg. (1 lb) can

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