Thermal Greases

» Sil-Free™ RoHS Compliant
silicone-free synthetic thermal grease

» Ther-O-Link RoHS Compliant
silicone-based thermal grease

» Ultrastick RoHS Compliant
silicone-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
silicone-based thermal compound in a synthetic base fluid for efficient application

» Thermalcote™II RoHS Compliant
silicone-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.

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)

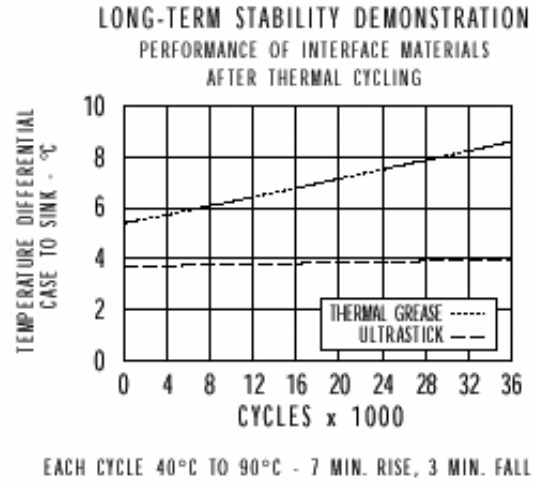
Ultrastick

Part Number: 100300F00000G

RoHS ✓ Compliant

Product Change Notice

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°

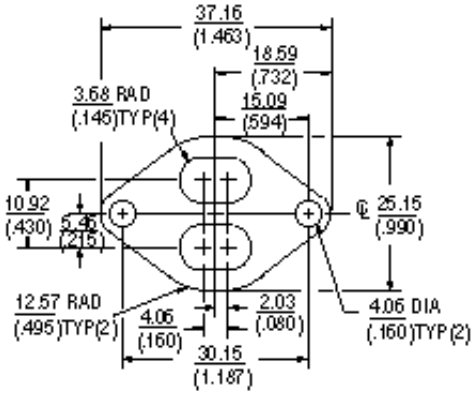
Volume Resistivity	1.0 X 1.0^{15} Ohm-cm
Dielectric Strength	250 volts/mil
Consistency	Paste
Bleed	0.6 max
Specific Gravity	0.28
Color	Opaque White
Operating Temperature Range	-40°C to 200°C
Thermal Impedance	0.03°C-in^2/W @ 20 psi 0.02°C-in^2/W @ 100 psi
Shelf Life	Indefinite

Conducta-Cote™

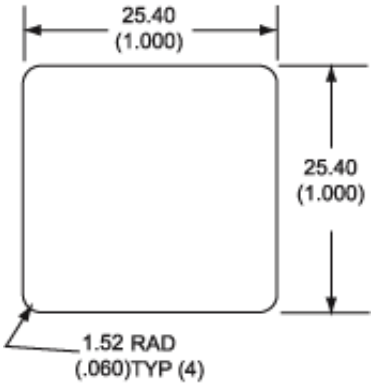
Conducta-Cote™ is used where grease application is needed without an insulator. It performs like a greased bare joint application.

- 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



MATERIAL SAFETY DATA SHEET

1. General Product Information

Product Name: Thermstrate 2000 TC Bar Product Code: N/A
Generic Name: Thermal Compound
Chemical Family: 1. Paraffin based Compound (passive/non-toxic) with zinc oxide filler.

Manufacturer: Power Devices Inc.

Health Hazards: None Anticipated
Physical Hazards: Paraffin based compound may burn, but will not ignite readily.

- Physical Form: solid to 60°C, coating changes to liquid phase above this temperature.
- Appearance: Gray/white
- Odor: None
- DOT Hazard class: Not listed.

NFPA HAZARD CLASS: Health: 0 (Least)
Flammability: 1 (Slight)
Reactivity: 0 (Least)

2. INGREDIENTS

Materials:

Chemical Name:	CAS No.	Concentration %	OSHA PEL	ACGIH TLV
Thermal Compound-	N/A	10		
1. Paraffin (fumes if gen.)	8002-74-2		2 mg.m3 (TWA)	2 mg/m3 (TWA)
2. Zinc oxide (tot. dust)	1314-13-2		10 mg/m3 (TWA)	10 mg/m3 (TWA)
Propionic Acid	79-09-4			

3. HEALTH EFFECTS DATA

Potential Health Effects:

Eye: Mechanical injury possible. Fumes from ignited coating may cause watering.
Skin: No irritation observed. Contact with hot material can cause burns.
Inhalation: Not a probable route of exposure unless melted. Vapors emitted are expected to have a low degree of toxicity by inhalation.
Ingestion: Do not take internally. No toxic effects expected.
Acute and Chronic effects: No lasting effects on health are known.

4. FIRST AID MEASURES

Eye Contact: Flush with lukewarm water; obtain medical attention if irritation persists. Remove to fresh air if fumes cause irritation.
Skin Contact: For contact with molten material, flush or immerse affected area (s) using cold water. Seek medical attention.
Inhalation: If respiratory symptoms develop from exposure to fumes emitted by molten material, move victim away from source of exposure to fresh air. If symptoms persist, seek medical attention.
Ingestion: First aid is normally not required for solid material; however, if molten material is swallowed, seek immediate medical attention.

5. FIRE AND EXPLOSION HAZARD DATA

Flammable Properties: Flash point, coating compound - 430°F/221°C (COC)
OSHA Flammability Class: Not Applicable
LEL/UEL – No Data
Auto-ignition Temperature – No Data
Burn Rate – No Data
Unusual Fire & Explosion Hazards: Material may burn, but will not ignite readily.
Extinguishing Media: Dry chemical, foam, water, sand or earth is recommended.
Fire Fighting Instructions: Emergency responders in the danger area should wear bunker gear and self contained breathing.

6. SPILL AND LEAK PROCEDURES

Spill, Leak or Release: Pick up to prevent slipping hazard.
Aquatic Toxicity: Material is insoluble in water.
Storage Conditions: Store away from flammable materials.
Waste disposal: Dispose in a closed container or heavy bag. Material may be recycled or disposed of in accordance with federal, state and local environmental regulations. This material may be regulated under CERLA, TSCA, SARA and/or RCRA Regulations.

7. HANDLING AND STORAGE

Storage Temperature: Minimum – Not Applicable; Maximum - 95°F/35°C

Store in a cool dry location. Keep away from incompatible materials such as strong oxidizing agents. Employee education and training is advisable.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Personal Protective Equipment (PPE):

Respiratory: No respiratory protection is required.
Skin: No special protection required.
Eye/Face: No special protection required.
Other Protective Equipment: A source of clean water should be available in the work area.

9. PHYSICAL DATA

Flash Point: Coating Compound - 430°F/221°C (COC)
Melting Point: Coating Compound – 143F/60C
Boiling Point: No Data
Decomposition Temperature: Not Applicable
Specific Gravity: Liquid –0.76; Solid – 0.92
Solubility in water: Negligible
Solubility, other: Soluble in hydrocarbons.
Volatiles, % by Volume: Negligible
Appearance: Waxy compound
Color: Gray/white
Odor: None

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of storage and handling.
Conditions to Avoid: Avoid all possible sources of ignition (see Sect. 5,7)
Incompatible Materials: Avoid contact with strong oxidizing agents.