

TECHNICAL PRODUCT BULLETIN



- **Diamond Filled**
- **< 40μ max particle diameter**
- **Meets RoHS environmental standards**
- **Screen print, stencil print dispensable**
- **Super thermal conductivity**
- **Electrical insulator**

TYPICAL PROPERTIES AND CHEMICAL CHARACTERISTICS

* The following information and technical data should be considered representative or typical only and not be used for specification purposes.

GENERAL DESCRIPTION

ALFA ULTRATHERM 500 is grease like silicone compound, filled with synthetic diamond and binding agent, this formulation promotes high thermal conductivity, low bleed, low thermal resistance, and function as heat transfer media.

ALFA ULTRATHERM 500 meets all environmental standards including RoHS, ALFATHERMA 500 is resistant to ozone and ultraviolet degradation and has good chemical stability, has low surface tension that enables it to wet most surfaces, which can lower the thermal contact resistance between the substrate and the material.

Color	Gray paste	
Specific Gravity, 25°C, gm/cc	2.96	
Viscosity	Paste	
Evaporation 24 hrs @25°C, %	0	
Evaporation 24 hrs @200°C, %	0.5	
Average Particle Size	<40μ	
Electrical Properties		
Dielectric Strength, volts/mil (ASTM D 150)		
Dielectric Constant @ 1kHz (ASTM D150)	5.35	
Dissipation Factor @ 1kHz (ASTM D150) @ 25°C	0.006	
Volume Resistivity, ohm-cm (ASTM D257)	1.98x10 ¹⁴	
Thermal Properties		
Thermal Conductivity W/m-K	4.6	
Operating Temperature Range, °C	-30 to 250	
Thermal impedance	0.012 c-in ² /w	
Thermal Resistance °C-In ² /W @	10 PSI	0.014
	20 PSI	0.014
	50 PSI	0.010

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POTENTIAL USES

- CPUs for servers, notebook, and desktop computers
- Automotive temperature sensing devices
- GPUs (Graphics Chips)
- Temperature Sensors
- Northbridge Chipsets
- Custom ASICS Chips
- Effective thermal coupler for any heat sink device, CPU to heat sink
- Applied to the base and mounting studs of transistor, diodes and silicone controlled rectifiers
- Power transistors
- Diodes, semiconductors
- Thermal Joints
- For any device where efficient cooling is required
- Potting
- TEC Modules
- Hardware
- Telecommunications
- Right product for thermal management
- High-voltage corona suppressant in connectors for fly back transferors located in TV sets.

FEATURES AND BENEFITS

- Excellent thermal conductivity
- Non-electrically conductive
- Controlled silicone volatility
- No need for curing
- Heat flow away from electronic components can increase reliability
- Non-toxic
- Non-corrosive
- Non-flammable
- Non-hazardous polymerization

APPLICATION METHODS

Automated or manual dispensing for screen printing you may add a small amount of solvent to lower viscosity and allow for screen printing, evaporate solvent by allowing the screen printed surface to rest open faced for 10 minutes at room temperature.

USAGE INSTRUCTIONS

For industrial use only Read MSDS carefully prior to use.

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STORAGE HANDLING & SHELF LIFE

ULTRATHERM 500 has a shelf life of 5 years at room temperature (76°F) in an unopened container, settlings may occur during long term storage, it is recommended to re-mix the filler by hand or mechanical mixing. Keep container tightly closed store in cool area away from ignition sources and oxidizers, no special precautions need to be taken if product is handled according to directions. Shelf life is indicated on the product label, any special storage and handling instructions will be printed on the product container label.

CLEAN UP AND DISPOSAL

ULTRATHERM 500 can be removed by using solvents such as mineral spirit, heptane, or isopropyl alcohol. Dispose of in accordance with local, state and federal regulations for hazardous waste.

Limitations

ULTRATHERM 500 is neither tested nor represented as suitable for medical or pharmaceutical use.

AVAILABILITY & PACKAGING

1) Squeeze tubes *

0.5 oz	---
1 oz	---
2 oz	---
5.3 oz	---

**Minimum of 12 tubes per order.*

2) Syringes

2 gm	---
4 gm	---
6 gm	---
10 gm	---

3) Other

Size Code	Container Size
A	2oz Jar
B	5oz Tube
C	8oz Jar
D	1 pint Can
E	10 lb. Can
F	60 lb. Pail

ENVIRONMENTAL IMPACT DATA

ODP	None	VOC	None
HCFC	None	HFC	None