

TECHNICAL PRODUCT BULLETIN

GENERAL DESCRIPTION

TG-106 is a silicone base grey heat sink grease compound, which is applied to the base and mounting studs of transistor and diodes to provide a positive heat sink seal, this facilitates heat transfer away from electrical/electronic components and into heat sinks, thereby increasing the overall efficiency and performance of the device. TG-106 is grease like silicone material, heavily filled with efficient heat conductive Aluminum oxide and a binding agent, this combination promotes high thermal conductivity, high temperature stability, and the lowest amount of bleed and evaporation. ALFA TG-106 thermal compound resists changes in consistency temperatures up to 180°C; function as heat transfer media, durable dielectric insulation, barrier against environmental contaminants and as a stress-relieving shock and vibration absorber over a wide temperature and humidity range. TG-106 thermal paste is resistant to ozone and ultraviolet degradation and has good chemical and solvent stability, good interference between the heat producing device and the heat transfer media, and low surface tension that enables them to wet most surfaces. ALFA TG-106 will not harden, dry, or melt after 1200 hours @ 205°C.

- **Low cost**
- **Outstanding thermal conductivity**
- **Zero VOC**

TYPICAL PROPERTIES AND CHEMICAL CHARACTERISTICS

Color	Grey
Base Fluid	Dimethyl polysiloxane
Filler	Metal Oxide
Specific Gravity, 25°C, gm/cc	2.70
Viscosity	Paste
Press Flow @ 42.5 PSI, 25°C sec	20
Penetration (Worked), mm	285 ¹ / ₁₀
Evaporation 24 hrs @25°C, %	0.0
Evaporation @ 200°C 24H by weight, %	0.5
Bleed 24 Hours, %	0.6
Electrical Properties	
Dielectric Strength, volts/mil (ASTM D 150)	380
Dielectric Constant @ 100Hz (ASTM D150)	4.39
Dissipation Factor @ 100Hz (ASTM D150)	0.0022
Volume Resistivity, ohm-cm (ASTM D257)	3x10 ¹⁴
Thermal Properties	
Thermal Conductivity W/m-K	1.65
Operating Temperature Range, °C	-60 to 205

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POTENTIAL USES

- Effective thermal coupler for any heat sink device, CPU to heat sink
- Automotive temperature-sensing devices
- Temperature sensors
- 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.

STORAGE HANDLING & SHELF LIFE

TG-106 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.

FEATURES AND BENEFITS

- Non-Sag or flowing
- Non-Hazardous polymerization
- Non-Toxic
- Non-Corrosive
- Reworkable
- Easily removed
- Non-Flammable
- Easy to apply via dispensing or screen printing
- Low surface tension that enables it to wet most surfaces, which can lower the thermal contact resistance between the substrate and material.

APPLICATION METHODS

Automated or manual dispensing

USAGE INSTRUCTIONS

For industrial use only Read MSDS carefully prior to use.

Limitations

TG-106 is neither tested nor represented as suitable for medical or pharmaceutical use.

ENVIRONMENTAL IMPACT DATA

ODP	None	VOC	None
HCFC	None	HFC	None



ALFA INTERNATIONAL CORPORATION

www.alfaadhesives.com

ALFA TG106

Alumina Thermal Grease

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CLEAN UP AND DISPOSAL

TG-106 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.

AVAILABILITY

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

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The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operation conditions. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention governed by any patent, without the authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.