



# AOS HEAT SINK COMPOUND

Thermal Interface Material

**Product Code: 52022**

## TECHNICAL DATA SHEET



### Product Description

**AOS Non-Silicone Heat Sink Compound** was created and developed over 35 years ago by AOS to solve the problems of contamination and migration associated with silicone-based products. The compound is a unique synthetic-based thermal grease used to insure quick, efficient heat transfer and dissipation. The primary advantage of this non-silicone product is **long-term material stability**. This means that the compound stays put and on the job over the full operable life of your hardware, exhibiting virtually no bleed or evaporation over a wide operating temperature range - even in a vacuum atmosphere ( $10^{-5}$  tor/mil, 24 hrs. @ 100°C). Compound will not leach, dry, harden, or melt in normal industrial use.

### The Non-Silicone Advantage

Silicone-based compounds have an undesirable tendency to physically migrate and contaminate components nearby. This interferes with circuit operation long after hardware installation to cause unexpected, untimely and often inaccessible problems. The AOS Heat Sink Compound's *no creep* feature extends circuit life by protecting components longer and by eliminating premature failure of adjacent components caused by migrating silicone base fluid.

### Product Features & Benefits

No creep extends OEM service life; compatible with metal and plastic components; no solder bath contamination; very low bleed and evaporation; 5 year minimum shelf life; excellent thermal conductivity and thermal resistance; wide operating range; meets KS 21343 spec and Military Specification MIL-C-47113B; will not dry, harden or melt in normal use; easy to apply and clean-up; safe to use.

### Typical Properties

| <u>Property</u>                                 | <u>Value</u>            | <u>Test Method</u>           |
|---|-------------------------|------------------------------|
| <b>Specific Gravity, @ 25°C</b>                 | 2.7                     | ASTM D-70                    |
| <b>Bleed, @ 200°C, 24 Hrs., %/Wt</b>            | 0.1 %                   | FTM-321 MODIFIED             |
| <b>Viscosity, 1 sec<sup>-1</sup>, 25°C/50°C</b> | 460,000/400,000 cP      | ARES G-2 RHEOMETER           |
| <b>Evaporation, @ 200°C, 24 Hrs., %/Wt.</b>     | 0.6 %                   | FTM-321 MODIFIED             |
| <b>Thermal Conductivity, @ 36°C</b>             | 0.92 W/m-K              | ASTMD 5470-06                |
| <b>Thermal Resistance, @ 50°C</b>               | 0.080 °C/W              | Oracle TTV Model 270-7806-01 |
| <b>Electrical Properties</b>                    |                         |                              |
| Dielectric strength, 0.05" gap, V/mil           | 305                     | ASTM D-149                   |
| Dielectric constant, 25°C @ 1,000 Hz            | 4.50                    | ASTM D-150                   |
| Dissipation factor, 25°C @ 1,000 Hz             | 0.0029                  | ASTM D-150                   |
| Volume Resistivity, ohm-cm                      | $1.65 \times 10^{14}$   | ASTM D-257                   |
| <b>Operating Temperature Range</b>              | -40°C to 200°C          |                              |
| <b>Flow Rate</b>                                | 4 to 6.5 g/min          | AOS Method                   |
| <b>Appearance</b>                               | Smooth, Off-White Paste |                              |
| <b>Shelf Life</b>                               | 5 Years                 |                              |

Customers are responsible for testing AOS Thermal Compounds materials for their proposed use. Any information furnished by AOS Thermal Compounds and its agents is believed to be reliable, but AOS Thermal Compounds does not guarantee the results to be accurate and makes no warranties as to the fitness, merchantability, or suitability of any AOS material or product for any specific or general use and shall not be held liable for incidental or consequential damages of any kind. (040206)

### AOS Thermal Compounds

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