

## Description

The MC002973 Silicone Heat Transfer Compound is a low thermal resistance grease with a silicone base that is electrically insulating and non-corrosive. It is used to improve the thermal interface contact conductivity between heat sinks, LEDs, motors, and heat-generating electronic components such as CPUs, GPUs, and power components. It improves the thermal interface between irregular and pitted surfaces.

## Benefits and Features

- High thermal conductivity
- Lowers the contact resistance between irregular surfaces.
- Extends the life of electronic components
- High dielectric strength
- Safe on plastics

## Usage Parameters

Properties	Value
Shelf Life	5 years
Theoretical Coverage for	<656 cm <sup>2</sup>
4G Pouch <sup>a)</sup>	<0.70 ft <sup>2</sup>

<sup>a)</sup> Idealized estimate based on 25µm [1mil] thickness and 100% transfer efficiency.

## Temperature Ranges

Properties	Value
Constant Service Temperature	-40 to 200°C
	[-40 to 392°F]
Storage Temperature of Unmixed Parts	-10 to 40°C
	[14 to 104°F]

## Principal Components

- Zinc oxide (thermally conductive filler)
- Amorphous silica (filler)

## Properties

Thermal Properties	Method	Value
Thermal Conductivity @ 25°C [77°F]	Hot Wire Method	0.66 W/(m * K)
Contact Thermal Resistance @ 25°C [77°F] <sup>a)</sup>	ASTM E 1225	0.57 × 10 <sup>-3</sup> (m <sup>2</sup> *K)/W
Electrical Properties	Method	Value
Volume Resistivity (ρ <sub>v</sub> )		1.5 × 10 <sup>15</sup> Ω/cm
Volume Conductivity (σ <sub>v</sub> )		6.7 × 10 <sup>-16</sup> S/cm
Dielectric Strength @0.254mm [0.01 mil]	ASTM D 149	400V/mil [16kV/mm]
Dielectric Constant	ASTM D 150	3.81
Dissipation Factor	ASTM D 150	0.0032
Grease Properties	Method	Value
Evaporation Loss, 22 h @165°C [329°F]	ASTM D 2595	0.1%
Oil Separation, 30 h @165°C [329°F]	ASTM D 6184	0.7%
Dropping Point	ASTM D 566	>260°C [>500°F]
Water Washout @38°C [100°F] <sup>b)</sup>	ASTM D 1264	0.1%
Worked Penetration, 60 strokes	ASTM D 1403	303

Physical Properties	Method	Value
Colour		White
Odour		Odourless
Density @ 25°C [77°F]	ASTM D 1475	2.40 g/mL
Viscosity		Thixotropic paste
Lubricant		No
Bleed @ 200°C, 24h		≤ 2% by weight
Corrosion Resistant		Yes
Filler		Zinc oxide, Silica

a) Tested with stainless steel plates

b) Bearing dried at 77°C [171°F]

### Storage

Store between -10 and 40°C [14 and 104°F] in dry area.

### Application Instructions

The conductive grease performance depends on mainly on surface preparation. Improperly prepared contact surfaces can degrade the paste's stability, conductivity, and lubrication characteristics. While the thickness and coverage are also important, the application method itself can easily be adjusted according to performance and application needs.

### Prerequisites

- Wear gloves and protective clothing.
- Clean and dry the surface of the substrate to remove other oils and greases, as well as dust, water, solvents, or any other contaminants.
- Recommendations: Use Isopropyl Alcohol or Thinner

### Equipment

- Lint free cloth (for cleaning contact and for wiping excess residue)
- Spatula or stick application tools (sized appropriately for your application)
- Isopropyl alcohol or other residue-free organic solvents

### To apply the grease

1. Wipe the contact with a lint-free cloth.
2. Clean the contacts with isopropyl alcohol or other non-oil based cleaner.
3. Once dry, spread grease in a thin layer onto the surface.

### Packaging

Packaging	Net Volume		Net Weight	
Tube	62.5 mL	2.11 fl oz	150 g	5.29 oz

### Part Number Table

Description	Part Number
Silicone Heat Transfer Compound, White, 62.5mL, Tube	MC002973

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