

Description

The MC002970 Carbon Conductive Grease is an electrically conductive silicone grease for improving electrical connections between sliding surfaces and parts. The 846 grease is designed to lubricate while maintaining good grounding connection. It inhibits corrosion and repels humidity providing an economical way to protect switches or to bridge the gap between contacting surfaces for EMI shielding applications. It is also great for providing electrical continuity between irregular or pitted surfaces.

Applications and Usages

The MC002970 paste improves electrical conductivity between electrical contacts and inhibits corrosion.

Benefits and Features

- Improves electrical connections between irregular surfaces
- Extends the life of contacts
- Safe on plastics
- Ensures electrical contact between loose or vibrating parts and small gaps
- Volume resistivity of $114\Omega\cdot\text{cm}$

Usage Parameters

Properties	Value
Shelf Life ^{a)}	5 Year

^{a)} Reported shelf life assumes room temperature storage and unopened container.

Temperature Ranges

Properties	Value
Constant Service Temperature	-50 to 200°C
	(-58 to 392°F)
Storage Temperature of Unmixed Parts ^{b)}	-40 to 40°C
	(-40 to 104°F)

^{b)} Room temperature is acceptable. Cold storage avoids material separation and settling. If storing at 25°C, mix thoroughly to disperse filler before use.

Principal Components

- Polydimethylsiloxane
- Carbon Black

Properties

Electrical Properties	Method	Value
Volume Resistivity (ρ_v)	Mil-Std-883J Method 5011.6	$114\Omega \cdot \text{cm}$
Volume Conductivity (σ_v)	Mil-Std-883J Method 5011.6	0.009S/cm
Grease Properties	Method	Value
Evaporation Loss, 22 h @165°C (329°F)	ASTM D 2595	2.6%
Oil Separation, 30 h @165°C (329°F)	ASTM D 6184	0.4%
Dropping Point	ASTM D 2265	>304°C (>579°F)
Grease Properties	Method	Value
Water Washout @38°C (100°F) a)	ASTM D 1264	1.3%
Worked Penetration, 60 strokes, ½ scale	ASTM D 1403	269
Emcor Rust Test, distilled water	IP 220	#1 ^{a)}

^{a)} Not more than three rust spots visible to the naked eye

Carbon Conductive Grease



Physical Properties	Method	Value
Colour	-	Black
Odour	Visual	Odourless
Density @25°C (77°F)	ASTM D 1475	1.05 g/mL
Viscosity	-	Thixotropic paste
Lubricant	-	Yes
Bleed Resistant	-	No
Corrosion Resistant	-	Yes
VOC (Volatile Organic Compound)	-	0%

Storage

Store between -40 and 40°C (40 and 104°F) in dry area.

Application Instructions

The conductive paste performance depends on mainly on surface preparation. Improperly prepared contact surfaces can degrade the pastes' 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 (see MC002970 SDS). This product is extremely messy.

Clean and dry the surface of the substrate to remove other oils, greases, dust, water, solvents, or any other contaminants.

Recommendation: Use Isopropyl Alcohol

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

NOTE: Avoid oil-based cleaners that are designed to leave a film on the metal surface. Contaminant oil or grease films may act like barriers reducing the electrical contact between the conductive paste and the metallic substrate.

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, apply the paste with the application tool to the contact, ensuring adequate coverage and desired thickness.

ATTENTION! DO NOT apply or smooth grease with bare finger. Carbon black is hard to clean and may transfer to other surfaces by touch. Further, you may introduce contaminants that degrade the overall performance of the grease

Packaging

Packaging	Net Volume		Net Weight	
Tube	76.2 mL	2.58 fl oz	80 g	2.82 oz

Part Number Table

Description	Part Number
Carbon Conductive Grease, Black, 76.2mL, Tube	MC002970

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