

Premium Carbon Conductive Grease

Description

8481 is a premium, carbon-filled, electrically conductive grease. It lubricates, reduces contact resistance, repels moisture, prevents static buildup, and it is a powerful corrosion inhibitor. It is thermally stable and will not separate because of temperature cycling.

Use 8481 when you want a lubricating grease that provides great electrical contact and extreme environmental protection. It is excellent for ground connections, rotating connections, rotary switches, variable capacitors, roller inductors, roller bearings, slip rings, slide connectors and potentiometers.

Features and Benefits

- *Volume resistivity of 160 Ω·cm*
- *Improves electrical connections between irregular and pitted surfaces*
- *Ensures electrical contact between loose or vibrating parts*
- *Prevents arcing, pitting, hotspots and welds*
- *Reduces mechanical wear*
- *Excellent corrosion resistance—passed ASTM B117 salt fog test >550 hours*
- *Excellent thermal stability—does not separate because of temperature cycling*
- *Silicone-free*

Usage Parameters

Properties	Value
Shelf life	5 y

Temperature Ranges

Properties	Value
Constant service temperature	-68 to 165 °C [-90 to 329 °F]
Storage temperature limits ^{a)}	-10 to 40 °C [14 to 104 °F]

^{a)} Cold storage avoids material separation and settling. If storing at room temperature, mix thoroughly to disperse filler before use.

Properties

Electrical Properties	Method	Value
Volume resistivity (ρ_v)	Mil-Std-883J Method 5011.6	160 Ω -cm
Volume conductivity (σ_v)	Mil-Std-883J Method 5011.6	0.006 S/cm
Thermal Properties	Method	Value
Thermal conductivity @25 °C [77 °F]	ASTM E 1461	0.29 W/(m·K)
Grease Properties	Method	Value
Evaporation loss, 22 h @165 °C [329 °F]	ASTM D 2595	2.0%
Oil separation, 30 h @165 °C [329 °F]	ASTM D 6184	5.0%
Oil separation	Boeing test ^{a)}	Slight oil separation
Dropping point	ASTM D 2265	>300°C [>572 °F]
Water washout @38 °C [100 °F] ^{b)}	ASTM D 1264	0.9%
Worked penetration	ASTM D 217	315
unworked	ASTM D 217	315
60 strokes	ASTM D 217	319
10 000 strokes	ASTM D 217	319
Emcor rust test, distilled water	IP 220	0, no corrosion
Salt spray corrosion resistance ^{c)}	ASTM B 117	Passed >550 h

a) Thermal cycling of ten cycles from -40 to 121 °C [-40 to 250 °F].

b) Bearing dried at 77 °C [171 °F].

c) Aluminum 2024 coupons with 254 μ m [10 mil] film thickness and >550 h exposure to 5% salt spray

Properties

Physical Properties	Method	Value
Color	Visual	Black
Odor	—	Odorless
Density @25 °C [77 °F]	ASTM D 1475	1.01 g/mL
Viscosity @25 °C [77 °F]	IPCTM-65- Method 2.4.24.4	128 Pa·s ^{a)}
Lubricant	—	Yes
Bleed resistant	—	Yes
Corrosion resistant	—	Yes
VOC (Volatile Organic Compound)	Calculated	4%
Synthetic Oil Properties	Method	Value
Oil viscosity index ^{b)}	ASTM D 2270	>110 °C [>230 °F]
Fire point ^{c)}	ASTM D 92	321 °C [610 °F]
Flash point ^{d)}	ASTM D 92	>290 °C [>554 °F]

Note: Values based on synthetic oil component only

a) Brookfield viscometer at 12 rpm with spindle RV S94.

b) High oil viscosity index of more than 100 indicates a small oil viscosity change with temperature.

c) Temperature at which the oil will continue to burn for at least 5 s after ignition with an open flame.

d) Cleveland open cup method.

Storage

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

Health, Safety, and Environmental Awareness

Please see the 8481 Safety Data Sheet (SDS) for further details on transportation, storage, handling, safety guidelines, and regulatory compliance.

Application Instructions

To apply the grease:

1. Wear protective gloves.
2. Clean and dry the surface being lubricated with a lint-free cloth or brush and a zero-residue cleaning solvent, such as MG 824 Isopropyl Alcohol.
3. Apply a thin, even layer of grease using a spatula or other appropriate applicator.

Attention!

Carbon grease is messy and transfers easily. Be careful not to spread it beyond the intended area.

Packaging and Supporting Products

Cat. No.	Packaging	Net Volume	Net Weight	Packaged Weight
8481-1 (8481-85ML)	Tube	85 mL [2.87 fl oz]	85.4 g [3.07 oz]	0.12 kg [0.26 lb]
8481-2 (8481-1P)	Jar	462 mL [15.6 fl oz]	465 g [1.02 lb]	0.52 kg [1.14 lb]
8481-3 (8481-1G)	Pail	3.78 L [1.00 gal]	3.79 kg [8.37 lb]	4.04 kg [8.90 lb]

Contact M.G. Chemicals if custom packaging or sizes are required

Technical Support

Please contact us regarding any questions, suggestions for improvements, or problems with this product. Application notes, instructions and FAQs are located at www.mgchemicals.com.

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