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Silicone Heat Transfer Compound

Description

860 is a thermally conductive silicone paste. It is designed to reduce thermal resistance between irregular metal surfaces. It is most commonly used to improve heat flow between heat sinks and heat-generating components, such as CPUs, GPUs, LEDs, motors, and power components.

Features and Benefits

- High thermal conductivity
- High dielectric strength
- Broad service temperature of -40 to 200 °C (-40 to 392 °F)
- Excellent corrosion resistance
- Non-bleeding
- Non-electrically conductive
- Long service life

Usage Parameters

Properties	Value
Shelf life	5 y
Theoretical coverage for 4G pouch ^{a)}	<656 cm ² [<0.70 ft ²]

a) Estimate based on 25 µm [1 mil] thickness and 100% transfer efficiency.

Temperature Ranges

Properties	Value
Constant service temperature	-40 to 200 °C [-40 to 392 °F]
Storage temperature limits	-10 to 40 °C [14 to 104 °F]

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] ^{a)}	ASTM E 1225	0.57 x 10 ⁻³ (m ² ·K)/W
Electrical Properties	Method	Value
Volume resistivity (ρ_v)	ASTM D 257	1.5 x 10 ¹⁵ Ω ·cm
Volume conductivity (σ_v)	ASTM D 257	6.7 x 10 ⁻¹⁶ S/cm
Dielectric strength @0.254 mm [0.01 mil]	ASTM D 149	400 V/mil [16 kV/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] ^{b)}	ASTM D 1264	0.1%
Worked penetration, 60 strokes	ASTM D 1403	303

a) Tested with stainless steel plates.

b) Bearing dried at 77 °C [171 °F].

Properties

Physical Properties	Method	Value
Color	Visual	White
Odor	—	Odorless
Density @25 °C [77 °F]	ASTM D 1475	2.40 g/mL
Viscosity @25 °C [77 °F]	IPCTM-65- Method 2.4.24.4	490 Pa·s ^{a)}
Lubricant	—	No
Bleed @200 °C, 24 h	—	≤2% by weight
Corrosion resistant	—	Yes
Filler	—	Zinc oxide

a) Brookfield viscometer at 12 rpm with spindle RV S96.

Storage

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

Health, Safety, and Environmental Awareness

Please see the 860 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 application tool.

Packaging and Supporting Products

Cat. No.	Packaging	Net Volume	Net Weight	Packaged Weight
860-4G	Pouch	1.7 mL [0.05 fl oz]	4 g [0.14 oz]	0.56 kg [1.2 lb] ^{a)}
860-60G	Jar	25 mL [0.84 fl oz]	60 g [2.11 oz]	0.59 kg [1.3 lb] ^{b)}
860-150G	Tube	62.5 mL [2.11 fl oz]	150 g [5.29 oz]	0.18 kg [0.40 lb]
860-1P	Jar	470 mL [15.9 fl oz]	1.13 kg [2.49 lb]	1.06 kg [2.34 lb]
860-3.78L	Pail	3.78 L [1.00 gal]	9.07 kg [20.0 lb]	TBD

TBD=To be determined. Contact M.G. Chemicals if custom packaging or sizes are required.

a) Case pack of 100 pouches

b) Case pack of 5

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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