



Thermally Conductive Grease Comparison Chart

	860	8616	8617
PROPERTIES			
Fillers	Zinc oxide	Aluminum oxide, zinc oxide, and boron nitride	Aluminum oxide and boron nitride
Base material	Silicone oil	Synthetic oil	Synthetic oil
Thermal Properties			
Thermal conductivity @25 °C [77 °F]	0.66 W/(m·K)	1.78 W/(m·K)	1.0 W/(m·K)
Contact thermal resistance @25 °C	0.57 x 10 ⁻³ (m ² ·K)/W	0.24 x 10 ⁻³ (m ² ·K)/W	0.71 x 10 ⁻³ (m ² ·K)/W
Constant service temperature	-40 to 200 °C [-40 to 392 °F]	-68 to 165 °C [-90 to 329 °F]	-68 to 165 °C [-90 to 329 °F]
Electrical Properties			
Volume resistivity (ρ _v)	1.5 x 10 ¹⁵ Ω·cm	1.8 x 10 ¹¹ Ω·cm	9.9 x 10 ⁹ Ω·cm
Volume conductivity (σ _v)	6.7 x 10 ⁻¹⁶ S/cm	5.6 x 10 ⁻¹² S/cm	1.0 x 10 ⁻¹⁰ S/cm
Dielectric strength	400 V/mil [16 kV/mm]	330 V/mil [13 kV/mm]	450 V/mil [17.6 kV/mm]
Breakdown voltage	N/A	16 600 V [16.6 kV]	4 500 V [4.5 kV]
Dielectric constant	3.81	6.77	6.07
Dissipation factor	0.003	0.01	0.08
Grease Properties			
Evaporation loss, 22 h @165 °C [329 °F]	0.1%	1.2%	2.3%
Oil separation, 30 h @165 °C [329 °F]	0.7%	0.02%	1.0%
Dropping point	>260°C [>500 °F]	>300 °C [>572 °F]	>308 °C [>586 °F]
Water washout @38 °C [100 °F]	0.1%	0.9%	1.5%
Worked penetration, 60 strokes, ½ scale	303	287	343
Oil viscosity index	N/A	>110 °C	>110 °C
Physical Properties			
Color	White	White	White
Odor	Odorless	Odorless	Odorless
Density @25 °C [77 °F]	2.40 g/mL	2.69 g/mL	1.96 g/mL
Viscosity	490 Pa·s	365 Pa·s	120 Pa·s

Refer to TDS for more information.
N/A=Not available.