



INDUSTRY TERMINOLOGY

Silicone Compounds

Grease-like materials usually based on the dispersion of a silica-thickening agent in a dimethyl-silicone fluid. They are used as a moisture barrier, surface protectant, dielectric insulator and for specialized release and lubrication. These compounds are not to be used for metal to metal load bearing lubrication.

Silicone Heat Transfer Compounds

Grease-like material based on the dispersion of a metal oxide-thickening agent in a silicone fluid. They are excellent dielectric materials and are used to enhance thermal conductivity.

Penetration

A measure of the consistency or hardness of a grease or compound. It is a measure of the depth in tenths of a millimeter, that a standard cone penetrates the grease or compound sample under prescribed conditions of weight, time and temperature. All measurements are in an inverse scale of consistency, the softer the consistency, the higher the penetration.

Bleed

A measure of the amount of oil separation loss due to the exposure of the grease or compound to high temperature. Measured as a % loss in 24 hours at some specified temperature.

Dielectric Constant

A value that serves as an index of the ability of a substance to resist the transmission of an electrostatic force one charged body to another. The lower the value, the greater the resistance.

Dielectric Strength

The voltage at which electrical breakdown of the dielectric compounds occurs, expressed as volt/mil when tested at a specific gap size.

Dissipation Factor

Ratio of loss current to charging current.

Dissipation Constant

A measure of the rate at which a given electrically charged medium loses its charge to the surrounding air.

Evaporation

A measure of the amount of evaporation loss due to exposure of the grease or compound to high temperature. Measured as a % loss in 24 hours at some specified temperature.

Flash Point

The lowest temperature at which vapors above the oil surface first ignite when a small test flame is passed across the surface under specified conditions.

Gradient

Rate of change in the magnitude of a variable.

Hydrolytic Stability

The chemical characteristic of a grease or compound which makes it less reactive with water.

Refractive Index

The ratio of velocity of light (of a specified wave length) in air at 25C to its velocity in the substance under test.

Resistivity

A measure of the electrical insulating capability in dc apparatus. High resistivity reflects low content of free ions and ion-forming particles, and normally indicates a low concentration of conductive contaminants.

Specific Gravity

The ratio of weight of a given volume of material to the weight of an equal volume of water. Weight divided by specific gravity equals volume. In the majority of cases, because the specific gravity of silicone grease is very close to that of water (S.P.=1), weight is equal to volume; ie. 1 gram equals 1 cc.

Thermal Conductivity

The rate at which heat flows through a medium. Expressed as BTU per hour per sq. ft. per F per ft.

Volatility

The weight of liquid lost when a material is held at a specified elevated temperature for a specified period of time.

Volume Resistivity

The electrical resistance between opposite faces of a 1 centimeter cube of the dielectric compound. Expressed as ohm-centimeters.

Water Washout

The amount of lubricating grease washed out of a ball bearing in 1 hour by a stream of water at 38C (100F) measured as a %.