Product Sheet

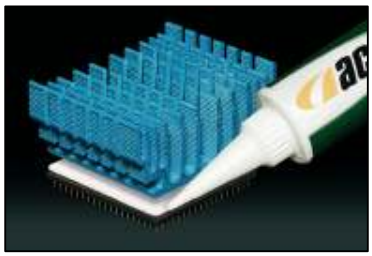
Silicone Grease

Silicone greases are formulated to provide very durable, non-setting, work stable products used to lubricate, electrically insulate and act as a heat transfer medium. They provide excellent protection against moisture and other harsh environmental conditions. Silicone polymers in general exhibit good resistance and remain stable when operating in an environment with elevated temperatures and silicone greases are no exception.

It is particulary important that the grease remains stable during storage and when in use. Some formulations may have the tendancy to split or separate slightly allowing small amounts of silicone fluid to rise to the surface, these can normally be mixed back in without detremental effects.

Key Applications

Thermal Transfer



When combined with specialist fillers the silicone grease will allow the efficient transfer of heat from one surface to another. These materials are more precisely known as Heat Transfer Compounds because they are not lubricants as such. They find their main application in micro electronics and are used to facilitate heat transfer from processors and other components to a suitable heat sink. If the component and the heat sink are simply placed together, the small air gaps that will naturally exist between them will inhibit heat transfer. By filling these gaps, the compound now allows a direct path through which the heat can travel.

The ability of a material to transfer heat is quoted in W/mK; for a material to offer any significant benefit it would have to have a figure above 0.4 W/mK. Standard silicone compounds will normally have a figure of 0.18 W/mK. ACC Silicones have Heat Transfer Compounds ranging from 0.77 W/mK up to 3.0 W/mK.

The obvious benefit of using a non-setting compound over a thermally conductive adhesive is the ease of rework. Should you wish to replace the component, it can easily be removed from the heat sink without damaging it or the heat sink.

Electrical & Electronics

Silicone polymers have very good electrically insulating properties enabling silicone grease to be used as an electrical insulator and lubricant. On the micro level they can be used to lubricate switches, electrical contacts and cable joints.

On a much larger scale they have been used for many years on high voltage insulators to provide environmental protection and prevent arcing or corona discharge. The addition of a pink dye has enabled inspection to take place from a distance to see if the grease has remained in place.

Water

Water repellency combined with non-toxicity make these greases an ideal choice for use with water pipes and fittings. ACC Silicones SGM494 has approval for use with hot and cold potable water from the UK, Water Regulations Advisory Scheme (WRSA) ref 0502509. Applications include lubricating plastic fittings and stop taps.

Lubrication & Mould Release
Silicone grease is an excellent lubricant involving the following material interfaces:-

- Plastic to plastic
- Rubber to rubber
- Rubber to plastic
- Plastic to metal
- Rubber to metal

These greases can also be used as a heavy duty mould release for the plastics and rubber industry.

***Caution*: Silicone grease should not be used for metal to metal high load bearings as it will cause adverse wear.**

Other applications include:

- Protection of battery terminals
- Potting of small electronic components
- Screw threads lubrication to prevent sticking and corrosion
- Packing of mineral fibre glands to prevent sticking
- Laboratory stop-cock lubrication
- Vacuum sealing of ground glass joints

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