

So What is Grease Anyway?

LubeDoc 30

Is it a semi-solid or solid combination of a petroleum product and soap or mixtures of soaps, with or without fillers, suitable for certain types of lubrication?

OR

Lubricant which has been thickened in order that it remains in contact with the moving surfaces and not leak out under gravity or centrifugal action, or be squeezed out under pressure. Thus a major practical problem is the provision of a structure, which will stand up under shear, and at all temperatures to which it may be subjected to during use. At the same time the grease must be able to flow into bearings through grease guns and from spot to spot in the lubricated machine as needed, and must not of itself add significantly to the power required to operate the machine, particularly at the start?

OR

Lubricating grease is a solid or semi-fluid lubricant consisting of a thickening agent in a liquid lubricant? Answer...all of the above. Grease is a mixture whereby a small amount of thickener (soap), typically less than 10% by weight, can immobilize large quantities (around 90%) of oil and additives.

Lubricating oil and lubricating grease serve the same purpose of minimizing friction and wear between moving surfaces. Grease is generally used instead of oil where a lubricant must act as a seal to prevent entry of contaminants and where a lubricant must maintain its position in a mechanism. To perform satisfactorily in a given application, grease must:

1. **REDUCE FRICTION** and **WEAR** in the lubricated component under various operating conditions.
2. **PERMIT** free motion of moving parts at low temperatures and itself pump freely at those temperatures.
3. **RESIST** leakage, dripping, and slinging.
4. **MAINTAIN** structure and consistency during long periods of use.
5. **PROTECT** against rust and corrosion.
6. **PREVENT** dirt, water, and other contaminants from entering the parts being lubricated.
7. **ARE CHARACTERISTICALLY SUITABLE** for the method of application.
8. **HAVE ADEQUATE** shelf or storage life.
9. **BE COMPATIBLE** with elastomer seals and other materials in which it will come in contact.
10. **ARE SUITED** for the application and operating environment.

Characteristics of grease are controlled by the chemical and physical properties of the base fluid, the additive package as well as the thickening agent.