

5 Properties You Should Consider When Selecting a Lubricant

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When purchasing lubricating oil, the price, application and quality of the product should all be considered. This balance is essential for an attractive cost-benefit ratio for the company. This decision, however, will only be the best one if the manager evaluates the lubricant properties.

Reviewing the technical information about these fluids is essential to avoid machine issues and waste of resources. As a result, we've written this post to help you learn more about the many types of lubricants on the market and which qualities should be considered so that you don't make a mistake when making a purchase!

5 Lubricant properties

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1. Formulation

Lubricating oil can be solely base oils, as in pure mineral oil, or additives and aggregates. These additives can account for 0.25% to 28% of the total product volume on average. But the basic oil will have a high impact on the lubricating performance. Therefore, you'll want to evaluate these properties.

2. Viscosity Index

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3. Oxidation stability

This property must be thoroughly studied because it reduces the product's shelf life. Oxidation consists of oil transformation with the polymerization of organic molecules. Thus its original qualities change, the viscosity increases, clogging filters and depositing sediments in the engine. The inclusion of additives in the products is one of the factors that may boost the lubricant's resistance to oxidation.

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4. Additives

Additives are chemical substances that are added to oils to improve lubricant qualities by reducing undesirable features and increasing desired ones.

As a result, they can reduce oxidation, extend the useful life of the lubricant and provide a variety of other benefits, depending on the application. The most commonly used are:

- **dispersing agent: used to clean up carbon residues from combustion**
- **anticorrosive: protects the engine from chemical aggressions in the fuel burning process**
- **defoamers: reduces the development of air bubbles caused by sudden lubricant motions**
- **antioxidant: aids in preventing oxidation**
- **Viscosity booster: protects the lubricant's integrity and operation even with variations in temperature**

5. Specifications

The viscosity is defined by the SAE (Society of Automotive Engineers) grade, which is given in numbers. The higher the number, the higher the viscosity.

You have probably seen things such as 10w40 or 15w30. Each equipment will require a different viscosity grade. W means winter. The first number indicates the viscosity at low temperatures, and the second, the oil viscosity at 100 °C.

Pay attention to the type of lubricant, which we have already mentioned in the specifications: mineral, synthetic or semi-synthetic. Finally, note the acronyms associated with the type of application. The API classification is used in the American standard to indicate the severity of engine exposure:

- S — combustion engines, such as those found in passenger vehicles, pickup trucks and vans
- from A to M, "M" being the highest quality for engines that demand high performance

Under the European standard (ACEA), we have the classifications:

- A — gasoline engine in passenger vehicles
- B — fast diesel engines, such as for pick-up trucks
- C — heavy diesel vehicles, buses and trucks

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These letters may be followed by a number to indicate the level of quality:

1. low
2. medium
3. high

It is critical to assess these lubricant features to make the best purchase selection and assure optimum performance and durability of the equipment.

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