



## The Importance of Considering Viscosity Index In Lubricant Selection

BioBlend biodegradable lubricants are an excellent choice when you consider the naturally high Viscosity Index (VI) of vegetable base stocks. BioBlend products provide increased lubrication performance over a larger range of temperatures than a standard petroleum based oil, which is a key component in the efficient operation and maintenance of capital equipment.

It is rarely debated that the viscosity of an oil is the most important parameter to consider when choosing the proper lubricant, but have you looked at the importance of also considering an oil's Viscosity Index (VI) when deciding on the proper lubricant for your application? According to machinerylubrication.com, 89% of lubrication professionals recently surveyed consider an oil's VI when selecting a lubricant, leaving no doubt that it is an important selection factor that should be taken into account, especially when operating in extreme seasonal climates.

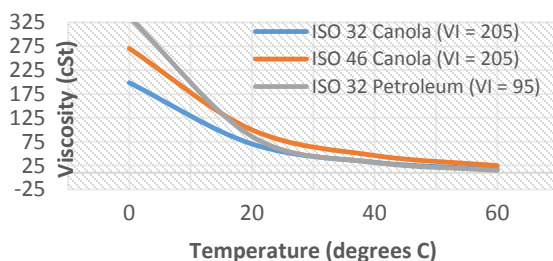
The main function of a lubricant is to maintain a proper lubrication film between two surfaces. This is largely dependent on the viscosity of an oil, which is defined as an oil's resistance to flow. Higher viscosity oils are thicker and flow more slowly than lower viscosity oils. Original Equipment Manufacturers (OEMs) typically recommend a specific viscosity for use in their equipment because they have determined the required film thickness and strength required for optimal equipment performance.

A number of negative conditions (poor cold start lubrication, power loss due to friction, inadequate lubrication film, etc.) could result from the use of an oil with a viscosity that is too high (thick) or too low (thin), which could lead to major consequences such as the failure of major components, increased power consumption, or even a catastrophic failure. Since temperature can have a dramatic effect on an oil's viscosity, considering an oil's Viscosity Index – a measure of how viscosity varies in relation to temperature - should be at the top of every lubrication professional's list when selecting the proper lubricant.

The chart below uses ASTM D 341, Standard Practice for Viscosity-Temperature Charts for Liquid Petroleum Products, to demonstrate the performance advantage of higher VI fluids over the accepted operating temperatures of many commercial and industrial applications. As it illustrates, the higher Viscosity Index biodegradable oils remain more stable and

closer to their defined viscosities over a broader range of temperatures. Because various lubricants are required to function across a wide range of both ambient and operating temperatures, a higher VI oil (indicated by a flatter curve) is more desirable.

ASTM D 341 Viscosity- Temperature Chart



## FAQs

### Which BioBlend products will work for me?

With a typical Viscosity Index of around 200, BioBlend biodegradable lubricants make sense in a number of different applications, especially where equipment loads, speeds and ambient temperatures are not constant. In comparison, the typical VI for a petroleum based hydraulic oil is around 95. As any lubrication professional could reason, choosing products from the BioBlend biodegradable options below, which typically have more than double the VI of a petroleum-based oil, has a number of positive indications.

**BioBlend Hydraulic Oils** – These high performance hydraulic fluids are formulated with proprietary anti-wear and anti-corrosion additives and have been shown to reduce operating temperatures, friction, and component wear in hydraulic systems. They are available in various ISO grades and basestocks, including synthetics.

**BioBlend Greases** – BioBlend has a full line of greases, including general purpose, heavy duty and synthetic grease options in various NLGI grades. All BioBlend greases are formulated with a number of operating conditions in mind. We use only the most advanced technologies to develop greases that will outperform the competition in a number of different applications and environments, including those where extreme temperatures, extreme loads, and water washout are important factors.

**BioBlend Aerosols** – BioBlend aerosols are an excellent environmentally friendly option for a number of different applications. BioBlend Multi Purpose Oil, an NSF H-1 product, can be used in all general lubricating applications and BioBlend Penetrating Oil can be used to loosen frozen or stuck parts by dissolving grease, dirt and grime, while at the same time leaving a light lubrication film to help control corrosion.

### How can I learn more?

For more information on the BioBlend products that will meet your specific lubrication needs, please contact:

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**BIOBLEND**  
High Performance BioBased Lubricants