

TECHNICAL CONCEPT

VISCOSITY INDEX AND ITS SIGNIFICANCE



It is important to select the right lubricant in order to protect your machinery. This depends largely on the viscosity index of the fluid.

So let's learn more about Viscosity Index & its significance.

WHAT IS VISCOSITY ?

Prior to understanding the viscosity index, we need to comprehend the physical property of fluids called "Viscosity". Viscosity is the most important property for the lubricant. It can be defined as an oil's resistance to flow and shear. Taking a proactive approach to monitoring your lubricant's viscosity can have a major effect on the health, and life of your machinery.

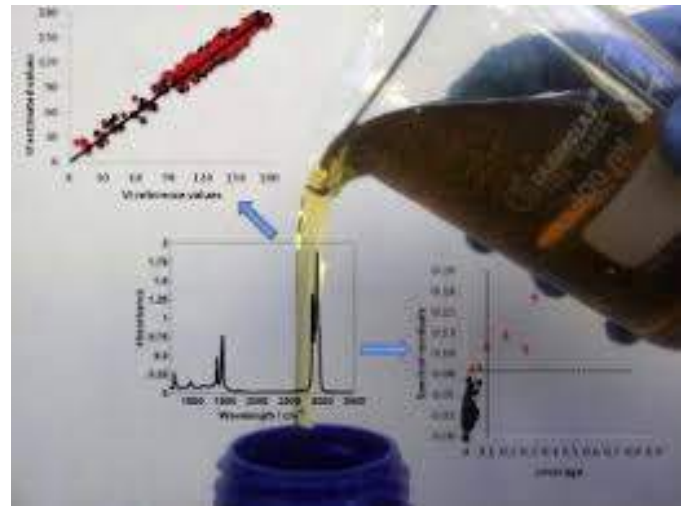


WHAT IS THE VISCOSITY INDEX, AND HOW DOES IT RELATE TO VISCOSITY?

Viscosity Index (VI) is defined as the rate of change of viscosity with respect to temperature. Viscosity is also influenced by temperature. The quality and formulation of a lubricant will impact how much its viscosity will drop with an increase in temperature. So, it is important to study VI to anticipate whether the lubricant being referred to meets the asset's requirements based on the operating temperature range.

DETERMINATION OF THE VISCOSITY INDEX

There are two standard procedures to calculate the viscosity index: ASTM D22706 and ISO 29097. To determine an oil's VI, the viscosity is measured at two temperatures i.e. 40 degrees C and 100 degrees C. This is then compared to a scale based on two reference oils.

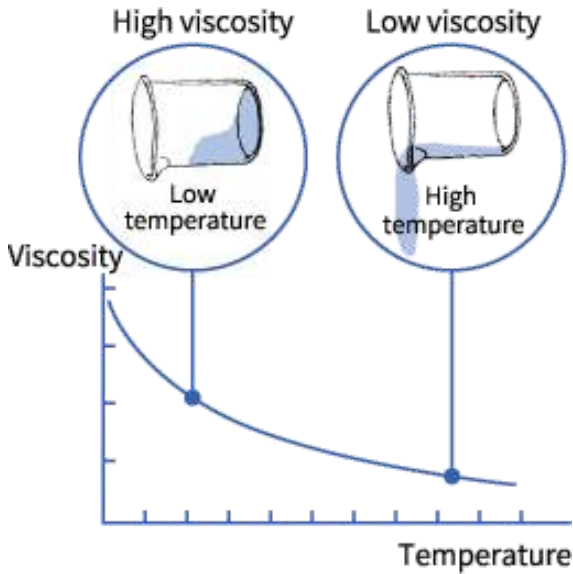


The viscosity index of conventional mineral oil is well known, which is between 95 to 100 because the VI has no units of measure. The VI of highly refined mineral oils is approximately 120. Synthetics may have a VI of nearly 250. A higher number indicates that the lubricant changes viscosity at a lower rate based on the temperature.

A higher VI is more captivating on the grounds that it enables the lubricant to provide a more stable lubricating film over a wider temperature range.

Remember that a slight difference in temperature can result to a huge viscosity change that could be unfavorable to the asset.

VISCOSITY-TEMPERATURE BEHAVIOR



Lubricants change their viscosity significantly with changing temperature. But this viscosity change over temperature is not linear. A low VI represents a major change in viscosity with a change in temperature. Such lubricants are highly viscous at low temperatures and thin at high temperatures. It is the opposite in the case of high VI. There is a small change of viscosity over a wide temperature range.

CONCLUSION :

Viscosity index is the most important parameter demonstrating the lubricant's temperature-related flow properties. There are plenty of Industrial Lubricants options in the market, but it is always a good idea to check the specifications of the lubricant manufacturer to give a proper lubricant solution.



Mosil Lubricants are the Specialty Lubricant Manufacturers, our team thoroughly studies the customer's application with all specifications and provides an adequate solution. With a proper solution and accurate viscosity index, one can surely achieve maximum life expectancy and reliable operation of the machinery.