

Hydraulic Oil or 10W

LubeDoc 13

When choosing hydraulic oil for your hydraulic system or Cat equipment, what do you use?

Answer: what is your application mainly used for? Since the viscosity of oil is directly affected by operating pressures and temperatures, the selection of hydraulic oil to be used must be based on what the viscosity is. ISO32, ISO46, ISO68, or ISO100 Many choices and a very important decision for you and your equipment.

Is the viscosity too high for my application?

Internal friction of the oil will increase which can cause cavitation of the pump and reduced flow for your hydraulic system. Raising operation temperature resulting in oxidation of the oil. An overall pressure reduction will occur. Metal to metal contact will occur on the moving parts and pump.

Is the viscosity too low for my application?

Pump slippage will increase which will increase temperature.
An overall pressure reduction will occur.
Internal leakage may increase which will also reduce pressure.

The viscosity of hydraulic oils are based on a classification system designed by the Organization for International Standards (ISO) and the higher the ISO rating (number) the thicker the viscosity. To give you a comparison of oil viscosity, ISO 32 hydraulic oil has the same or closely the same viscosity as 10w motor oil. A lot of Cat equipment owners use the 10w oil for their hydraulic systems because of the cost factor and for the temp rating of 10w oil.

In some cases, temperature changes are so different that the use of multi-weight oil may be required in a hydraulic system. Common multi-weight oil often used in a hydraulic system with change temperatures is 10w30 motor oil. Even though using engine oil in hydraulic systems is a common practice; it is not recommended due to various variations in additive packs and detergents in the oil.