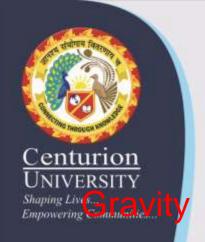


STUDY OF TESTS ON FUEL FOR SI AND CI ENGINES



FUEL PROPERTIES

Flash Point

Viscosity

Cloud Point

Pour Point

Carbon-Residue Test

Ash Test

Gravity

which serves as an index of the weight of a measured volume of this product

There are two scales generally used by petroleum engineers:

Specific-gravity scale

American Petroleum Institute gravity scale

Flash Point

which the oil must be heated in order to give off enough vapor to form a combustible mixture above the surface that will momentarily flash or burn when the vapor is brought into contact with a very small flame

Viscosity

Viscosity is technically defined as the fluid friction of an oil

To put it more simply, it is the resistance an oil offers to flowing

Heavy-bodied oil is high in viscosity and pours or flows slowly



The cloud point is the temperature at which the separation of wax becomes visible in certain oils under prescribed testing conditions

When such oils are tested, the cloud point is slightly above the solidification point



The pour point of an oil is the temperature at which the oil will just flow without disturbance when chilled



The purpose of the carbon-residue test is to study the carbon-forming properties of a fuel.



Ash Test

The ash test is an extension of the carbon-residue test

If an unused oil leaves almost no ash, it is regarded as pure

The ash content is a percentage (by weight) of the residue after all carbon and all carbonaceous matter have been evaporated and burned