



1. What is the cetane number?

Cetane Number is an indicator of the combustion speed of diesel fuel and compression needed for ignition.

7. Why F5 engine by CFR Engines Inc. has to be used for measuring cetane number?

CFR engines, produced by CFR Engines Inc. are the only instruments to be used for cetane ratings, since they are cited in the internationally-recognized standard test method ASTM D613.

CETANE NUMBER

2. Why we do care about cetane number?

Since cetane number is function of the ignition delay (the time period between the start of ignition and the first identifiable pressure increase during combustion of the fuel), fuels with lower cetane number have longer ignition delays, requiring more time for the fuel combustion process to be completed. Hence, higher speed diesel engines operate more effectively with higher cetane number fuels.



6. How to improve cetane number?

Cetane improvers (additives), like 2-ethylhexyl nitrate and di-tert-butyl peroxide are used, not only to raise the cetane number, but also to reduce engine emissions, lower fuel consumption, allow quicker start-up with less smoke, better cold start, less engine knock and noise, as well as to reduce engine wear.

3. What does it mean 50 cetane?

A fuel having 50 cetane means that this fuel has the same combustion speed as a mixture containing 50% of octane (hexadecane) and 50% of alpha-methyl naphthalene. By agreement, octane has cetane value of 100, while alpha-methyl naphthalene of 0. Also, as a reference of 15 cetane, hexamethaylnonane is used.

4. What are the cetane rating methods?

Cetane number (CN) is measured according to the standard test methods: ASTM D613, EN ISO 5165.

5. What is cetane index?

Cetane index (CI) is a calculated number based on the density and distillation range of the fuel. Most oil companies use the '4-point method', ASTM D4737, based on density, 10% 50% and 90% recovery temperatures. Diesel engine operation is primarily related to the actual cetane number and the cetane index is simply an estimation of the base (unadditized) cetane number.

For additional information please contact us on email: office@dalytical.com