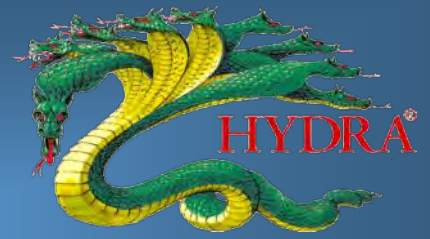


# HYDRA



## LUBO Lubricity Booster

Fuel Additive For Low Sulphur Fuels



# HYDRA®

## Features & Advantages

- ◆ Improved lubricity of low sulphur diesel.
- ◆ Maintains clean injectors.
- ◆ Corrosion resistance.
- ◆ Reduced filter blocking.
- ◆ Extends the life of components by minimizing metal-to-metal contact.
- ◆ Decrease fuel pump wear issues.
- ◆ Work in very cold climates.
- ◆ Reduces diesel engine knock.
- ◆ Dilution rate: 1: 4,000 (250ppm).

## Description

Legislation requires a transition for main engines operating on heavy fuel to the new low Sulphur distillate fuel.

The hydro-processing process used to remove the Sulphur from fuels also removes the lubricity properties of the fuel.

The injection equipment of diesel engines is prone to excessive pump wear when using low or ultra low Sulphur fuels, since this kind of fuels have relatively low viscosity and reduced lubricating value.

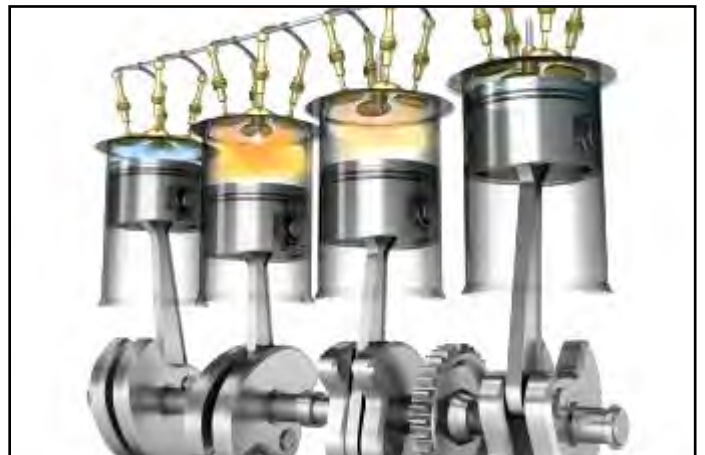


Hydra LUBO is a lubricity improver for use in low Sulphur diesel fuel, ultra low Sulphur diesel fuel and 0.1% Sulphur MGO.

It improves the lubricity of the fuel, the fuel pumps and injectors and maintains clean injectors.

Middle distillate fuel consumption from Jan 2015 has significantly increased which proportionally increases the risk for poor lubricity.

Lubricity of a fuel is dictated by the hydro-processing severity in the refinery to reduce Sulphur content. No direct correlation between lubricity and Sulphur or viscosity, DPF etc.).



### INCREASED LUBRICITY

Hydra LUBO contains lubricity improvers that decrease fuel pump wear issues, they work in very cold climates and are low in sulphur.

Test results give HFRR Wear Profile of less than 300 from a starting figure of 638. It also reduce the friction in the cylinder thereby improving the coefficient of friction helping improve fuel economy.

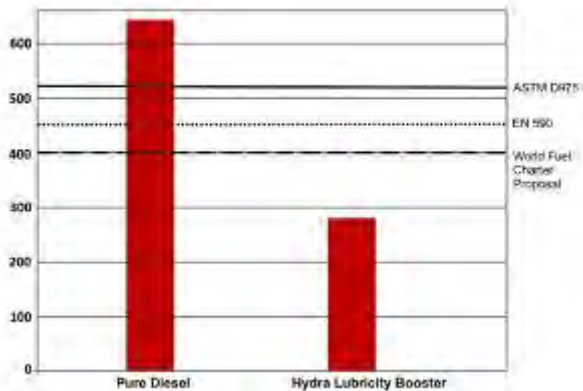
### IDEAL FOR LOW TEMPERATURES

The cloud point is less than  $-50^{\circ}\text{C}$  which means it does not change the pour point or waxing point when used in fuels in winter conditions.

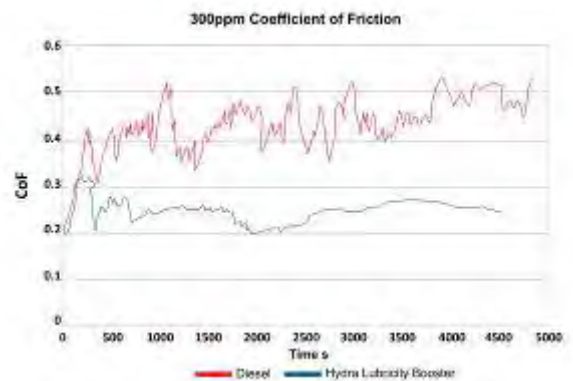


## Test Results

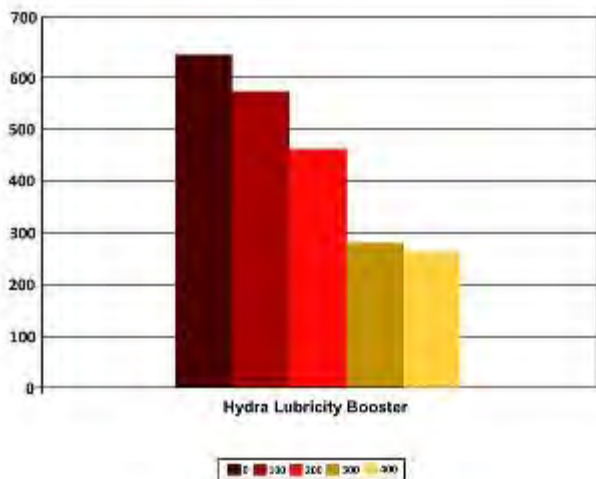
### HFRR Results Tested at 300ppm TEST PROCEDURE CEC-06-A-96



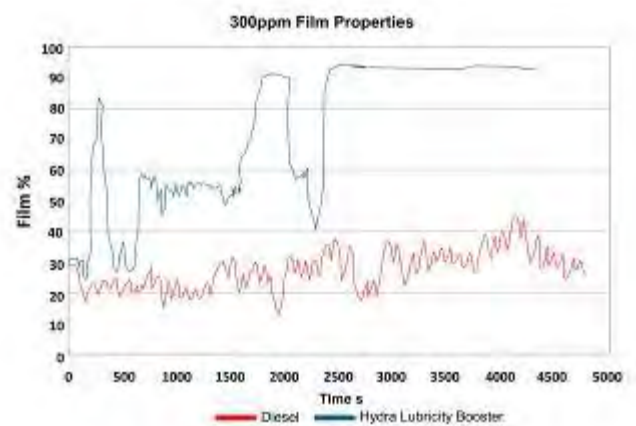
### Friction Properties 300ppm



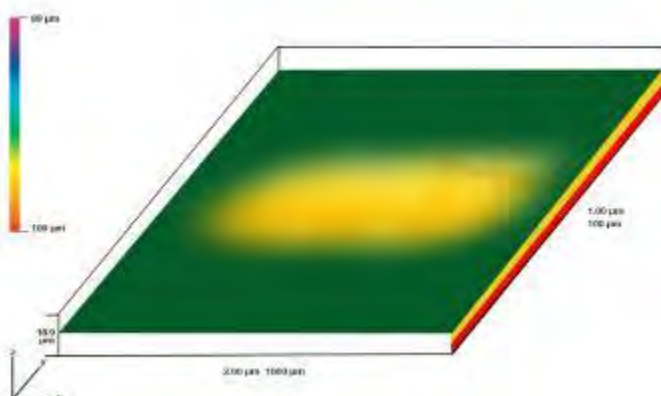
### Dose Rate Effects of Hydra LUBO



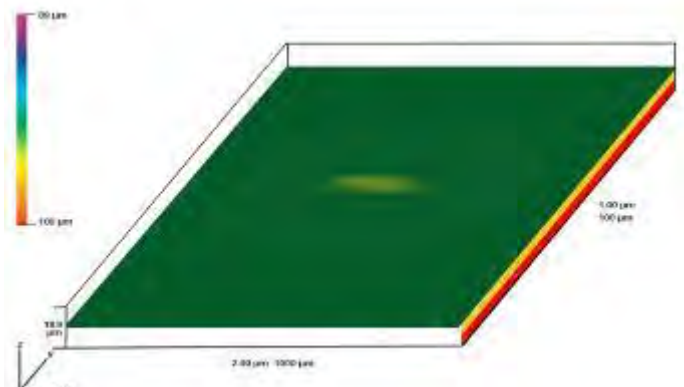
### Film Properties 300ppm



### Pure Diesel HFRR Wear Profile



### 300ppm Hydra LUBO HFRR Wear Profile





## Laboratory Facilities

Hydra International Ltd.'s Research & Development Laboratories are a hub of activity where new products are developed and formulated. We have working relationships with our raw material suppliers, many of these suppliers are major world-wide chemical manufacturers with their own development laboratories.

As a company we are well known in the chemical industry for being receptive to cutting edge new chemicals which can be incorporated into our products to achieve performance advantages. An important part of the International Standards that we hold is that of constant improvement. We show that we have achieved this at every independent audit.



## Hydra International Limited

8 Carters Lane, Kiln Farm, Milton Keynes MK11 3ER, U.K.

+44 (0)1908-265889 | [sales@hydra-int.com](mailto:sales@hydra-int.com)

[www.hydra-int.com](http://www.hydra-int.com)

