Reduxco®

FUEL CATALYST

REDUXCO – FUEL CATALYST

REDUXCO fuel catalyst is used as an additive to hydrocarbon fuels; it is an active substance reducing surface tension of coal and causing complete combustion of sooth and naphthalene's.
Reduxco catalyst does not impair physical or chemical properties of fuel, it dramatically reduces emission of PM particles (sooth), HC hydrocarbons, and CO carbon oxide.
REDUXCO affects the speed of combustion process chain reaction. When used in diesel engines it reduces fuel consumption by 4% to 12%, depending on engine working point. REDUXCO is a selective catalyst, with approximate empirical formula $C_5H_5FeC_5H_4COC_xH_n$. It can be dispersed in aqueous and organic solutions, in concentrations 0.68 ml to 2.8 ml per 1000 l of liquid.

REDUXCO – improved efficiency of combustion process and ecology in diesel and heavy oil driven engines.

Advantages:

- Decreased fuel consumption
- Decreased emission of harmful gases
- Decreased amount of combustion by products getting into the lubrication system
- No uncombusted material parts left in the form of calamine in the combustion chamber
- Increased amount of thermal energy
- Removes oil bacteria

Application:

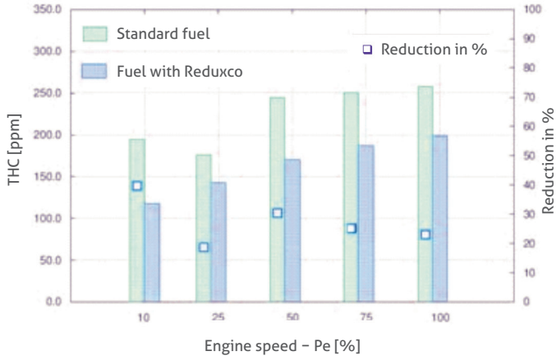
Heavy and diesel oil driven engines:

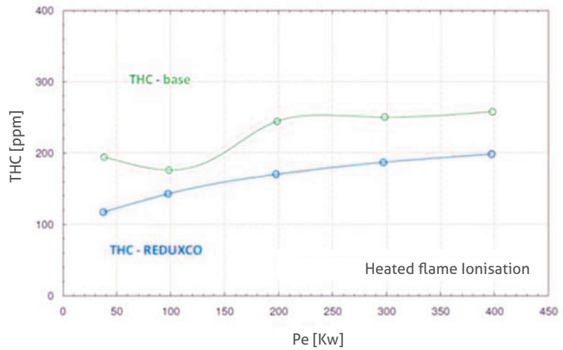
Vehicle industry
Shipment building industry
Railway industry
Other special industries

Results gained on the basis of testing the efficiency of "Reduxco" catalyser on energy performance indexes and gas emission of ship engines, in accordance with the requirements of norms ISO and Annexe VI of Marpol Convention 73/78.

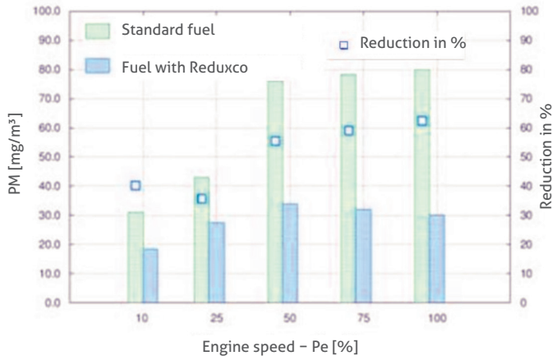
Tests on engine SULZER 6A20/24.

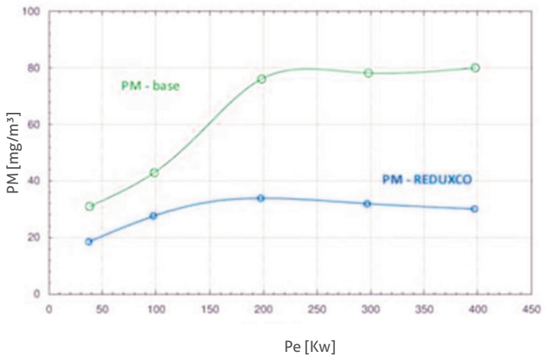
UNBURNED GASEOUS HYDROCARBONS EMISSIONS (THC) IN THE EXHAUST GAS



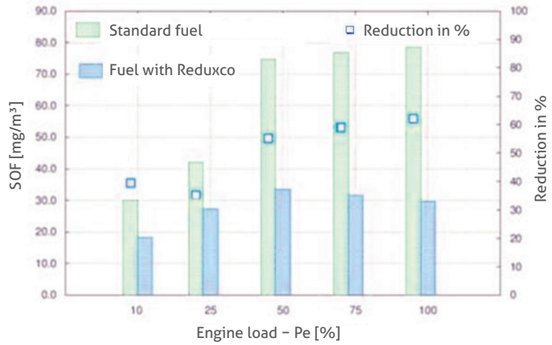


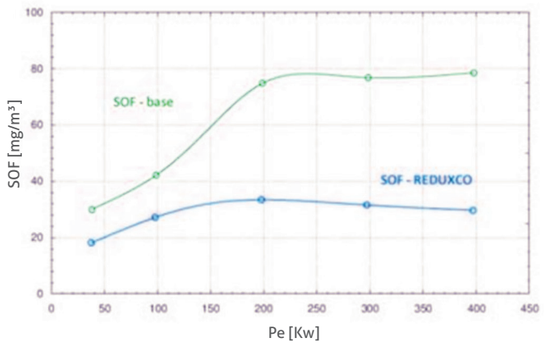
PARTICLE EMISSIONS (PM) IN THE EXHAUST GAS



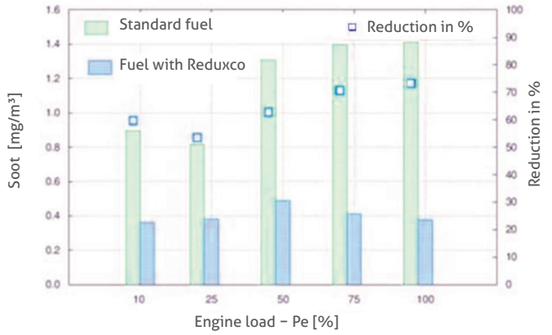


SOLVENT ORGANIC FRACTION (SOF) EMISSIONS IN THE EXHAUST GAS

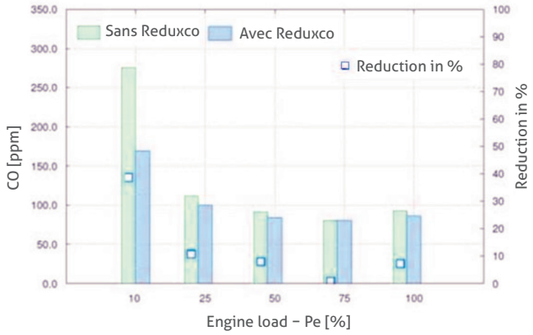




SOOT EMISSIONS IN THE EXHAUST GAS

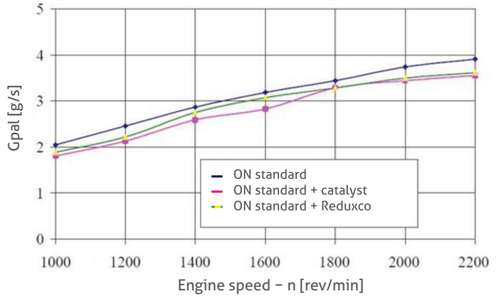


CARBON MONOXIDE EMISSIONS IN THE EXHAUST GAS

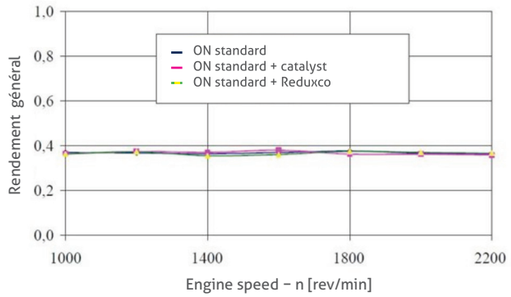


TESTS ON ENGINE PERKINS 1104C-44

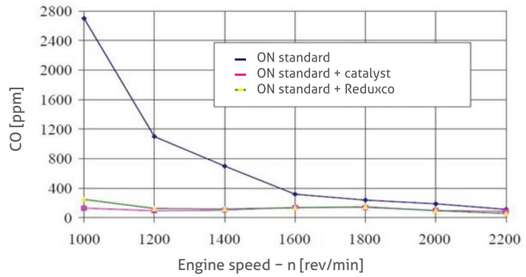
CONSUMPTION PER HOUR



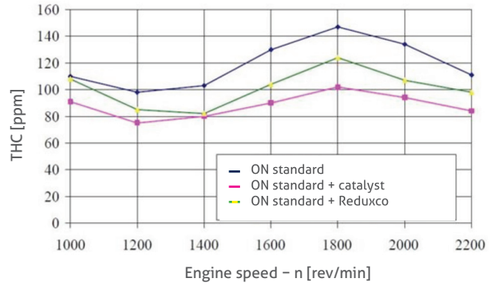
ENGINE EFFICIENCY



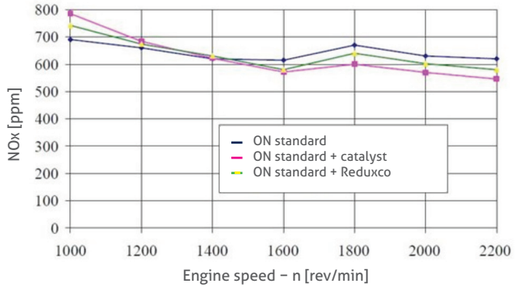
CARBON MONOXIDE EMISSIONS IN THE EXHAUST GAS



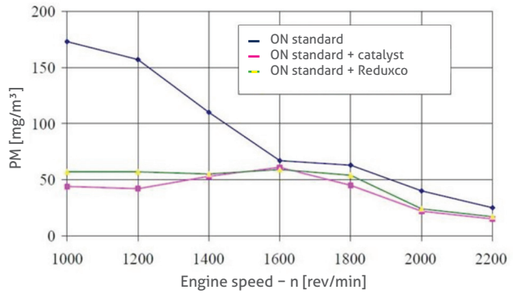
UNBURNED GASEOUS HYDROCARBONS EMISSIONS (THC) IN THE EXHAUST



NOx EMISSIONS IN THE EXHAUST GAS



PARTICLE EMISSIONS IN THE EXHAUST GAS



Conclusions

Air Force Insitute of Technology in Warsaw:

Adding the catalyst does not affect the quality of fuel.

Maritime University of Szczecin (SULZER 6A20/24 engine) :

- Lowers the particle emissions between 53% and 73% according to engine speed
- Lowers the solvent organic fraction emissions (SOF) between 35% and 62% according to engine speed
- Lowers the unburned gaseous hydrocarbon emissions between 19% and 40% according to engine speed
- Lowers the carbon monoxide emissions between 1% and 38% according to engine speed

Warsaw University of Technology (PERKINS 1104C-44 engine) :

- Lowers the fuel consumption between 4% and 12%
- Lowers the carbon monoxide emissions between up to 90% at low speed (1000 rev/min)
- Lowers the particle emissions up to 74%
- Lowers the unburned gaseous hydrocarbon emissions up to 30% according to engine speed

Tests of REDUXCO catalyst:

- European Patent PCT-PL2009/000096
- Registration in REACH system 01-2119406877-30-0000 registration date 07.10.2009
- Toxicological GLP tests – Vyzkumny Ustav Organickych Syntez, Rybitvi, Czech Republic
- Determination of REDUXCO explosive properties – Organic Industry Institute, Warsaw
- Tests of oxidizing properties – Organic Industry Institute, Warsaw
- Physicochemical tests – Inorganic Chemistry Institute, Gliwice
- Ecotoxicological tests – Organic Industry Institute, Pszczyna
- Certificate of National Institute of Public Health – National Hygiene Institute – Certificate no. PZH/HT-2265/2009
- Comparison test of influence of Perkins 1104C motor supply – Vehicles Institute, Warsaw University of Technology
- Assessment of REDUXCO catalyst influence upon the physicochemical properties of heavy fuel oil – Technical Institute of Air Force, Warsaw
- Tests of REDUXCO influence efficiency upon the energy performance and combustion gases emission in the ship engine – Maritime University in Szczecin

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Marek Majcher – V-ce President

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