Eficienţa energetică a lubrifianţilor **Mobil**

Victor Năstase, Manager Lubrifianţi Industriali,

LUBEXPERT ROMÂNIA

Timişoara, 22 mai 2018

Lubrifiantii Mobil

destinati tuturor domeniilor industriale



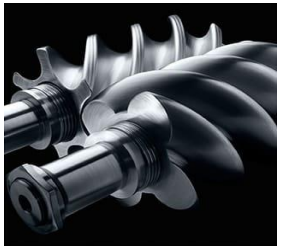


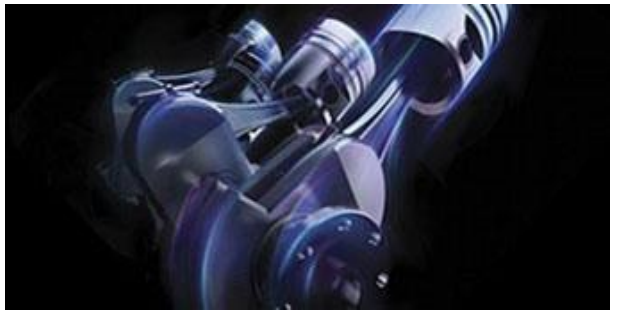

- industria extractiva
- petrochimie
- metalurgie
- prelucrari mecanice
- industrie mase plastice si cauciuc
- producere energie electrica
- celuloza si hartie
- procesare alimente si bauturi

etc

Lubrifiantii Mobil

pentru toate aplicatiile industriale:





- instalatii hidraulice
- angrenaje
- compresoare de aer
- turbine (abur, gaz, eoliene)
- lagare (de alunecare si rulmenti)
- fluide de prelucrare
- transfer termic
- tratament termic

etc.

Lubrifiantii Mobil,

uleiuri si unsori, pe baza de ulei mineral sau sintetic:

- sunt **dezvoltati in colaborare cu producatorii de masini si echipamente** (departament special la ExxonMobil, in contact cu mii de producatori de echipamente;
- asigura **buna functionare chiar si in aplicatii foarte solicitante**, cu temperaturi ridicate sau scazute, in prezenta apei sau a incarcarilor mari
- asigura **protectia optima a echipamentului**
- ofera **intervale lungi de lubrifiere**
- **imbunatatesc eficienta energetica**


energy
efficiency™

E. van Wijk Logistics B.V.

- firma de transport, flota de 300 vehicule
- test pe 3 camioane DAF
- MOBIL Delvac 1 LE %W-30
- Economie combustibil: **1,29%-4,09%**
  - **115.000 Euro/an**
  - **265 t/an, reducere CO_2**

Mobil Delvac 1
Synthetics Drive Business

mobildelvac.co.uk

Mobil Delvac 1™ LE 5W-30 engine oil helps Dutch haulage company achieve fuel savings

Savings from 1.29% to 4.09% have been observed in specific tests

Objective

Reduce Fuel Consumption and Lower Emission Levels

- **Haulage Company: E. van Wijk Logistics B.V.**
- **Location: Giessen, Netherlands**

Situation and Objectives

E. van Wijk Logistics B.V. is a haulage company based in the Netherlands operating a fleet of more than 300 vehicles. They have been approached by the Mobil Authorized Distributor Den Hartog to propose solutions to further reduce fuel consumption and minimize emission levels. In comparison with its present choice of SAE 10W-30 oil, it is to be demonstrated that the use of Mobil Delvac 1 LE 5W-30 high-performance engine oil will provide higher fuel-saving potential.

Recommendations and Solutions

Mobil Delvac 1 LE 5W-30 is recommended. With regard to how a lubricant can impact fuel economy, the most important single parameter is viscosity control. If the optimum viscosity is being utilized for each operating condition, then it will help minimize overall engine friction and reduce fuel consumption. In addition to the above, viscosity can increase over time because of lubricant break-down and contamination. Soot particles, contaminants, and by-products of oil break-down can lead to oil thickening, which can potentially lead to reduced fuel economy and compromise wear protection. Hence, a lubricant must be specifically designed to resist thermal, oxidative, and soot induced thickening.

Results and Benefits

The measurement of the monthly distances travelled and fuel consumption levels for three DAF test vehicles shows that savings from **1.29%** to **4.09%** have been observed versus the previous consumption figures. The vehicles' operating and weather conditions were comparable. In addition to outstanding cold-start behaviour and potentially extended engine service life through reduced wear, Mobil Delvac 1 LE 5W-30 could, in those circumstances, help provide a fuel savings potential of up to 115.000 EUR in the case of a changeover of all 300 trucks. This could theoretically result into a CO_2 reduction of up to 265 tons per year*.

Anton Stam - Algemeen Director
E. van Wijk Logistics B.V.

Willem ter Stege - Lubrication Field Engineer
Esso Nederland B.V.

Dik den Hartog - Algemeen Director
Den Hartog B.V.

For more information on Mobil Delvac 1 and Mobil Delvac lubricants or to directly contact your nearest ExxonMobil Distributor: Visit mobildelvac.co.uk

* Savings based on the assumption of an annual distance travelled of 13 million km, fuel consumption of previously 4 ML/year and a diesel-price of 1,15 EUR/L net. CO_2 -Reduction calculated based on an emission factor of 2,65 kg CO_2/L diesel-fuel (Source: DEKRA, Germany).

SPF Denmark A/S

- firma de transport, flota de 145 vehicule
- test pe un camion SCANIA
- MOBIL Delvac 1 LE 5W-30
- MOBILUBE 1 SHC 75W-90
- MOBIL Delvac SGO 75W-90
- economie combustibil: **3,4%**
  - **173.000 Euro/an**
  - **455 t/an reducere CO_2**

Mobil Delvac 1™
Synthetics Drive Business

mobildelvac.co.uk

Mobil Delvac 1™ LE 5W-30 engine oil helps Danish haulage company achieve fuel savings of an average 3.4%

Objective

Reduce Fuel Consumption and Lower Emission Levels

- **Haulage Company: SPF Denmark A/S**
- **Location: 6600 Vejen, Denmark**

Situation and Objectives

SPF Danmark A/S is a haulage company based in Denmark operating a fleet of more than 145 vehicles. It was approached by the Mobil Authorized Distributor, OK a.m.b.a., with proposals to reduce fuel consumption and minimise emission levels. In comparison to its present choice of SAE 15W-40 engine oil, SAE 80W-90 gear oil and 80W-140 rear axle oil, it is to be demonstrated that the use of fully synthetic lubricants "from bumper to bumper" will provide potential for higher fuel savings and reduced emission levels.

Recommendations and Solutions

For the engine, use of Mobil Delvac 1™ LE 5W-30 high-performance engine oil is recommended. Mobilube 1 SHC™ 75W-90 is recommended for the gear and Mobil Delvac SGO™ 75W-90 for the rear axle. With regard to a lubricant's ability to impact fuel economy, the most important single parameter is viscosity control. If the optimum viscosity is being utilised for each operating condition, then it will help minimise overall friction and reduce fuel consumption. Furthermore, viscosity can increase over time because of lubricant break-down and contamination. Soot particles, contaminants, and by-products of oil break-down can lead to oil thickening, which can potentially lead to reduced fuel economy and compromise wear protection. Hence, a lubricant must be specifically designed to resist thermal, oxidative, and soot induced thickening.

Results and Benefits

The measurement of the monthly distance travelled during the January–September 2013 period and fuel consumption levels for one Scania test vehicle **show an average saving of 3.4% versus the previous eight months (prior to January 2013) consumption figures.** There was no significant change to the operating and weather conditions during the trial compared to the operating and weather conditions during the eight months prior. Based on these trial results, the use of ExxonMobil fully synthetic lubricants could provide 1,196 EUR fuel savings potential per vehicle in case of changeover of all 145 trucks. Hence, a theoretical CO_2 reduction of 455 tons per year* can be calculated.

Henrik Ringskr - Transport Manager
SPF Danmark AS

Thorleif Bache - Lubrication Field Engineer
Esso Norge AS.

Torben Didia Rasmussen - Product Manager
OK a.m.b.a.
Denmark

For more information on Mobil Delvac 1 and Mobil Delvac lubricants or to directly contact your nearest ExxonMobil Distributor: Visit www.mobildelvac.co.uk

*CO_2 - Reduction calculated based on an emission factor of 2,65 kg CO_2/L diesel-fuel (Source: DEKRA, Germany).

Volkswagen AG

- piese auto material plastic, 22 masini injectie
- test pe masina injectie material plastic KM
- MOBIL DTE 10 Excel
- reducere consum energie electrica: **3,7%**
  - **330.000 kWh**
  - **200 t/an reducere CO_2**

PROOF OF PERFORMANCE

Mobil SHC

Mobil DTE 10 Excel series

Energy savings of 3.7% on average

Used in injection molding machines for manufacturing molded plastic parts in the automotive industry

Volkswagen AG
Wolfsburg, Germany

Situation and goal

In the manufacture of plastic molded parts, the automotive industry uses injection molding machines from Krauss Maffei among others. Injection molding machines use hydraulics for generating clamping force, moving the injection unit, ejecting the molded part, etc. In order to lower the total energy demand of the system, reduce leakage oil and increase oil service life, the search was on for a hydraulic oil that was better suited and thus able to replace the mineral-based hydraulic oil HLP-D 46 that had been used so far.

Recommendation and solution

Initially, the use of Mobil DTE 10 Excel 46 series, a high-performance hydraulic oil according to ISO VG 46, was recommended. The structure of this mineral-based lubricant fosters the reduction of power losses in the hydraulic system, resulting in a measurable decrease in energy uptake. The very good viscosity/temperature behavior of the Mobil DTE 10 Excel series allows selecting a lower viscosity grade. This benefits the start-up behavior in systems retrofitted with variable pump drives in the low-temperature range, avoiding the need for expending additional energy for pre-warming the oil. Thus in future, using Mobil DTE 10 Excel 32 for all systems will be recommended.

Result and advantage

Measuring the energy uptake before and after the switch to Mobil DTE 10 Excel 46 resulted in energy savings of 3.7% on average. Power consumption was measured under identical production conditions. Material used and material throughput per hour were identical. In addition to the advantages of extended oil change intervals and system service life due to strong wear protection, this will result in **energy savings of at least 330,000 kWh / year** (based on 6,000 operating hours p.a.) for the 22 systems operated at the site.

It may be assumed that total CO_2 reductions will be about 200,000 kg p.a.*

* CO_2 reduction was calculated based on an immissions factor of 0.605 kg per kWh of power consumed (source: WWF)

For additional information on Mobil SHC and other Mobil lubricants, please go to **www.mobilindustrial.com** or contact our Technical Helpdesk at TechDeskEurope@exxonmobil.com.

Mareika Sander,
FES-CE, Esso Deutschland GmbH
October 2012

Mobil 1 Mobil Delvac 1 Mobil SHC

Turbine eolienne

Mobil SHC Gear 320 WT

7 ani garantie ulei + reductor!

Mobil

Extended Warranty for Mobil SHC™ Gear 320 WT

What The Warranty Covers

ExxonMobil Petroleum & Chemical BVBA (ExxonMobil) provides this limited warranty to the purchasers who use **Mobil SHC™ Gear 320 WT** (the "Lubricant") in the gearboxes of wind turbines from the date of delivery as established by the original equipment manufacturer ("OEM") industry requirements, as well as other conditions described herein. This limited warranty covers the Lubricant and critical components lubricated by the Lubricant. ExxonMobil warrants that the Lubricant is free from defects and that the Lubricant you purchased will protect your gearbox lubricated by the Lubricant, provided that:

- The Lubricant is confirmed to be an unadulterated Mobil™ Industrial lubricant product.
- The equipment has been operated within the limits specified by the OEM, and is duly documented.

What The Warranty Does Not Cover

This limited warranty excludes:

- Mobil industrial lubricants used in mechanically deficient equipment as a result of abnormal operation; negligence, abuse, damage from casualty, shipment or accident; or equipment modification done without written authorization from the OEM.
- Situations where the OEM required lubricant standards do not match those stated by ExxonMobil without the written approval from ExxonMobil.
- Mobil industrial lubricant products that have been used in conjunction with any other product or additive that has not been authorized for use by ExxonMobil.
- Failure of equipment due to a pre-existing condition that is unrelated to the use of the Lubricant.
- Repair or replacement of equipment due to normal wear and tear.

What the Period of Coverage Is

This limited warranty is valid for a period of seven years from the date of delivery.

What We Will Do To Correct Problems

ExxonMobil will replace any Lubricant that is defective. In addition, if there is equipment failure due to the Lubricant you purchased, ExxonMobil will bear any costs required and adequate to repair any equipment damage (or, in its sole discretion, bear the cost of replacement of such equipment) directly caused by a defect or malfunction of the Lubricant, provided that the Lubricant was selected and maintained in accordance with specifications of the OEM or the written instructions of an ExxonMobil lubrication engineer employee.

How You Can Get Service

To file a claim under this limited warranty, you must:

1. Without undue delay upon discovery of the damage, contact your ExxonMobil or local distributor representative.
2. Allow an ExxonMobil representative to examine the equipment, including its operating and maintenance records to determine the extent of the damage and to confirm that the Lubricant was the cause.
3. Allow an ExxonMobil representative to obtain representative new and used lubricant samples for laboratory analysis to assist in determining the cause of the equipment failure.

How The Warranty Relates To Other Remedies

This warranty gives you specific legal rights, and you may also have other rights pursuant to your supply contract or mandatory laws, which are complemented and therefore not affected by this warranty.

Uleiuri lubrifiante:

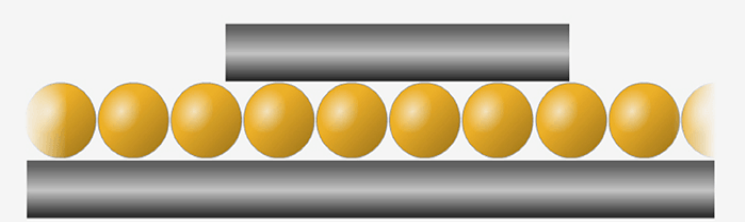
Ulei de baza **+** **Pachet de aditivi**

- mineral
- sintetic

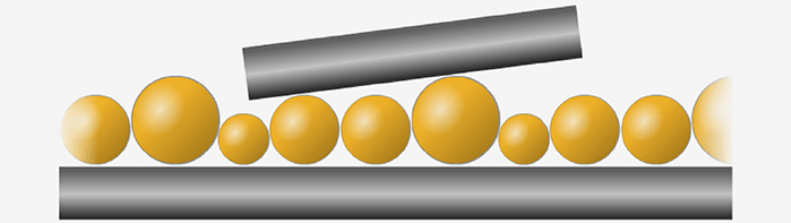
- detergenti
- inhibitori coroziune
- antioxidanti
- modificatori de viscozitate
- pentru protectie la inalta presiune
- antiuzura
- dispersanti
- antispumanti

…

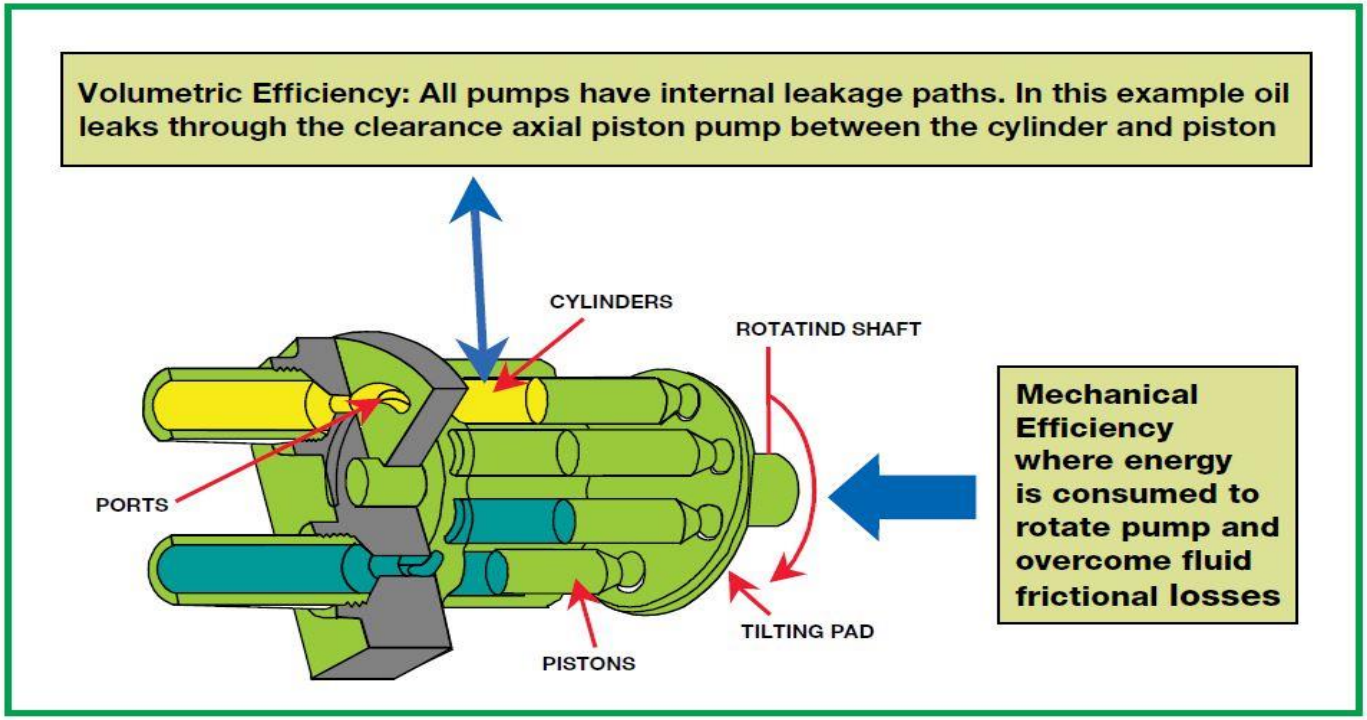
Ulei de baza sintetic



Ulei de baza conventional

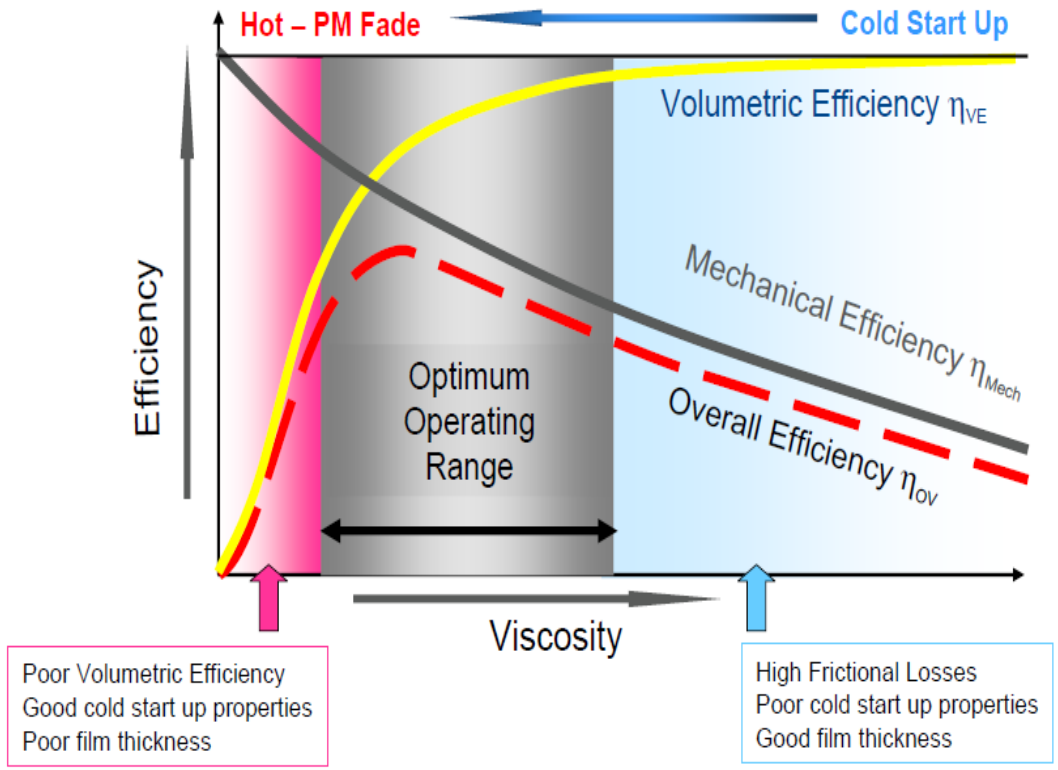


Eficienta hidraulica ridicata / potential de reducere a consumului de energie

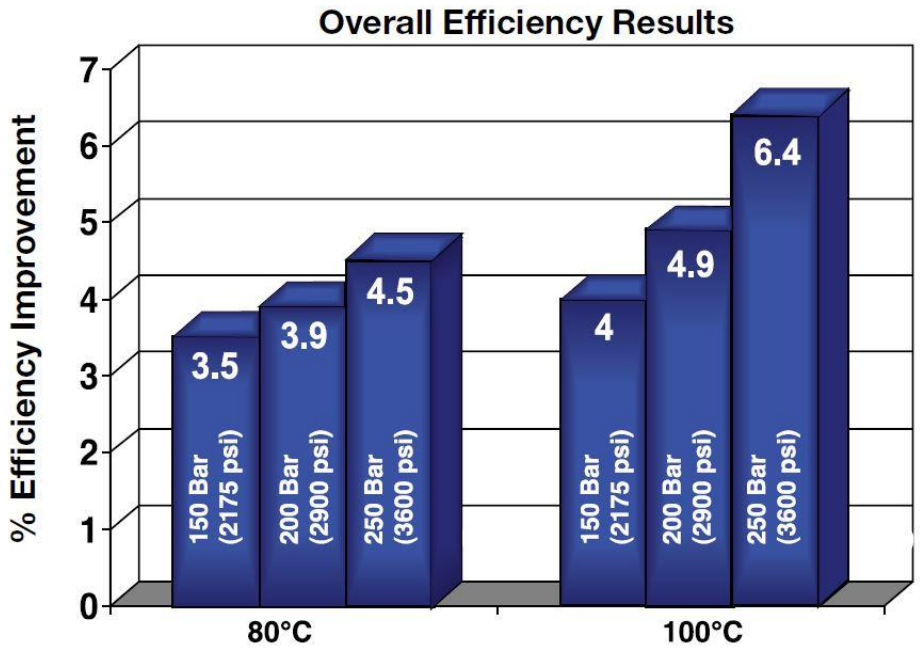


Mechanical and volumetric efficiency

- **Eficienta hidraulica ridicata / potential de reducere a consumului de energie**

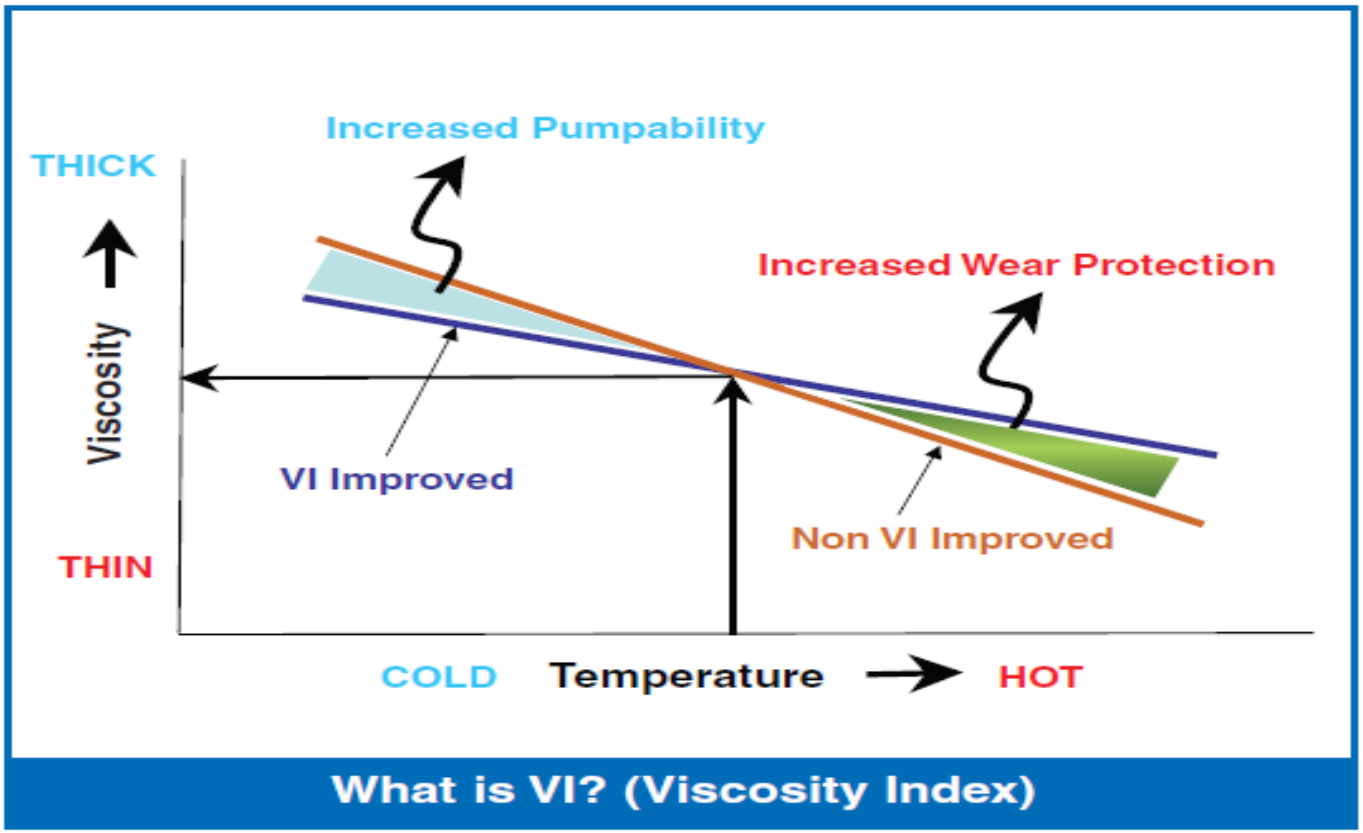


Eficienta hidraulica ridicata / potential de reducere a consumului de energie

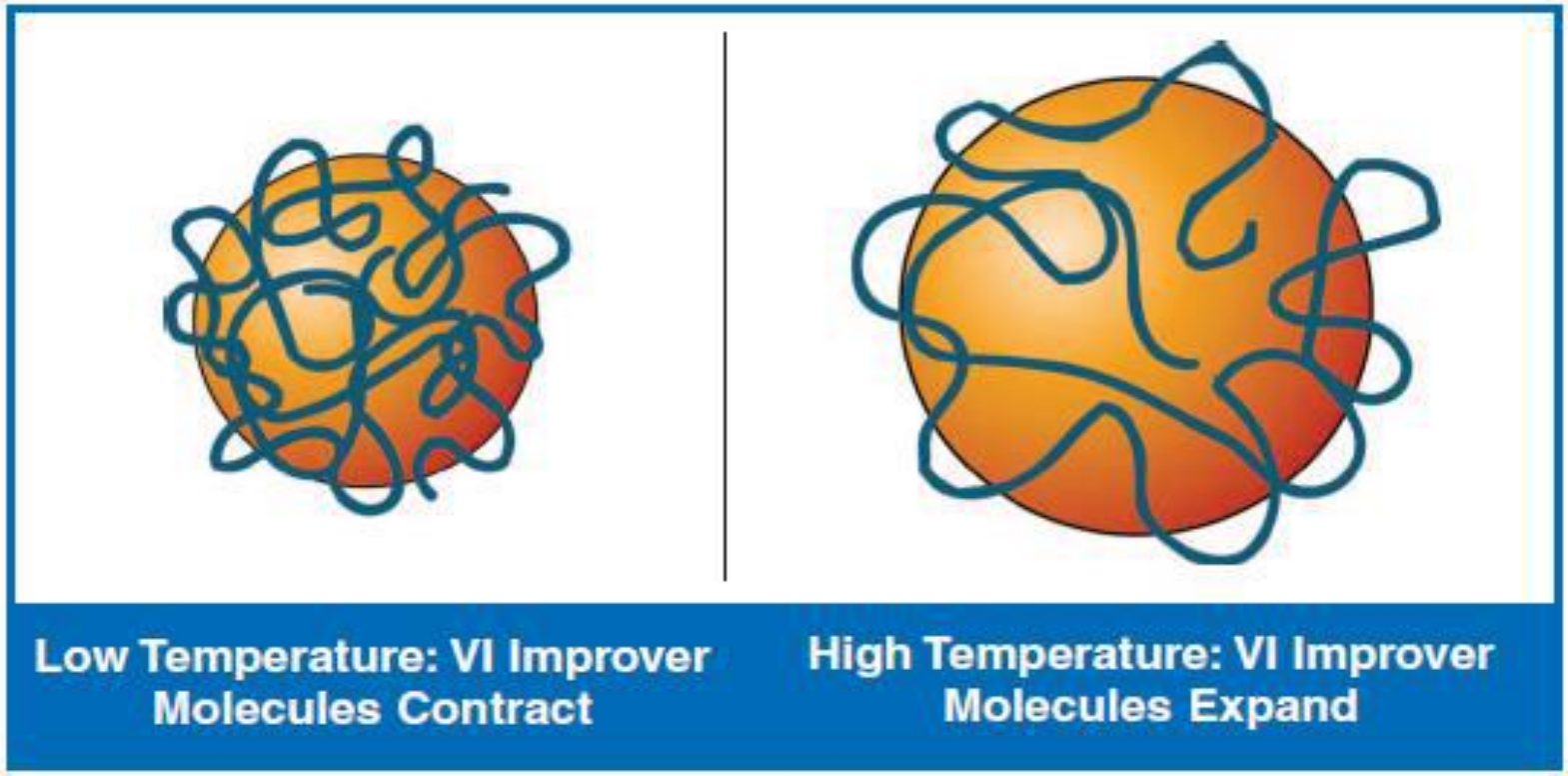


Efficiency – Mobil DTE 10 Excel™

- **Indice de viscozitate mare/ protectia componentelor sistemelor hidraulice intr-un interval mare de temperaturi**

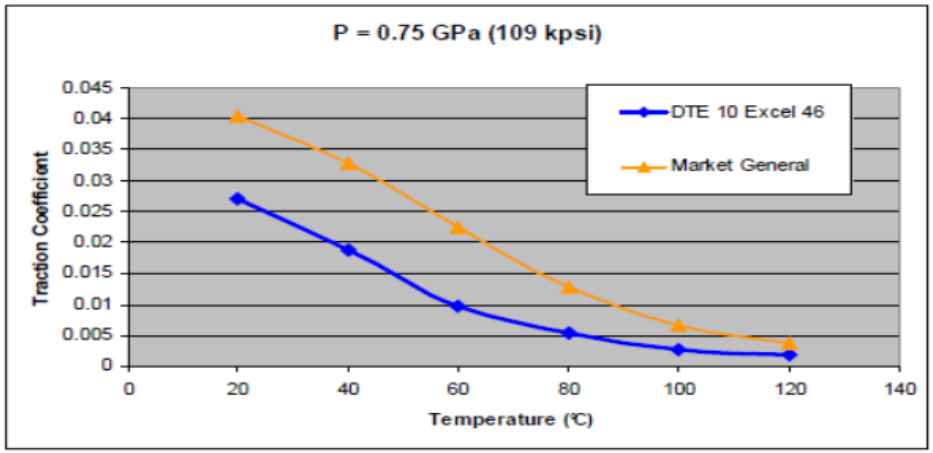


- **Indice de viscozitate mare/ protectia componentelor sistemelor hidraulice intr-un interval mare de temperaturi**



- **Coeficient de tractiune scazut / potential de reducere a consumului de energie**

Additive and Basestock Selection Impact Traction Coefficients

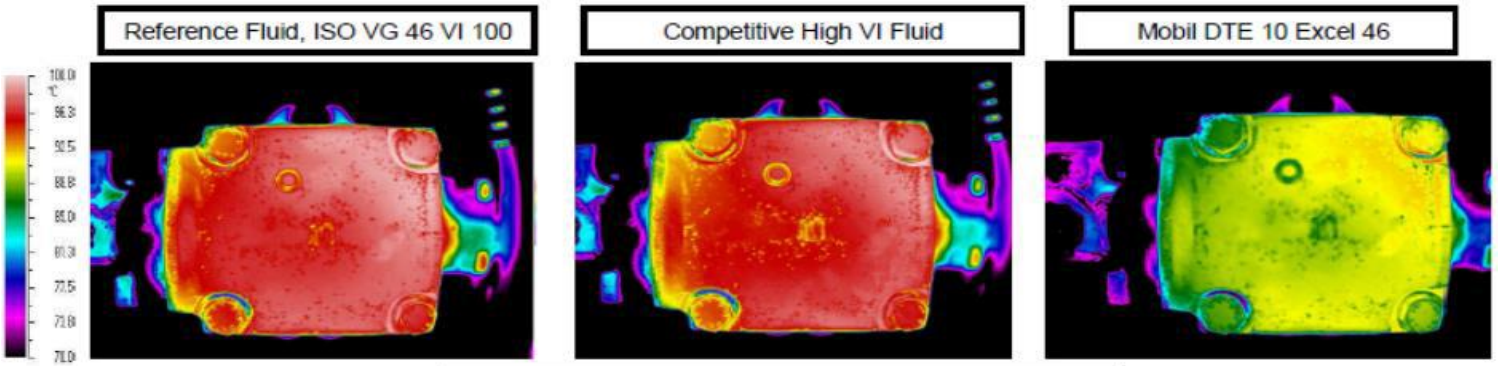


- **Mobil DTE 10 Excel 46 has significantly lower traction coefficient than traditional ZDDP-containing products**
  - + Traction coefficient relates to lubricant's resistance to shearing under EHL conditions
  - + *Lower traction coefficient yields less energy consumption*

Over 40% reduction in Traction Coefficient @ 60°C → Increases in Efficiency

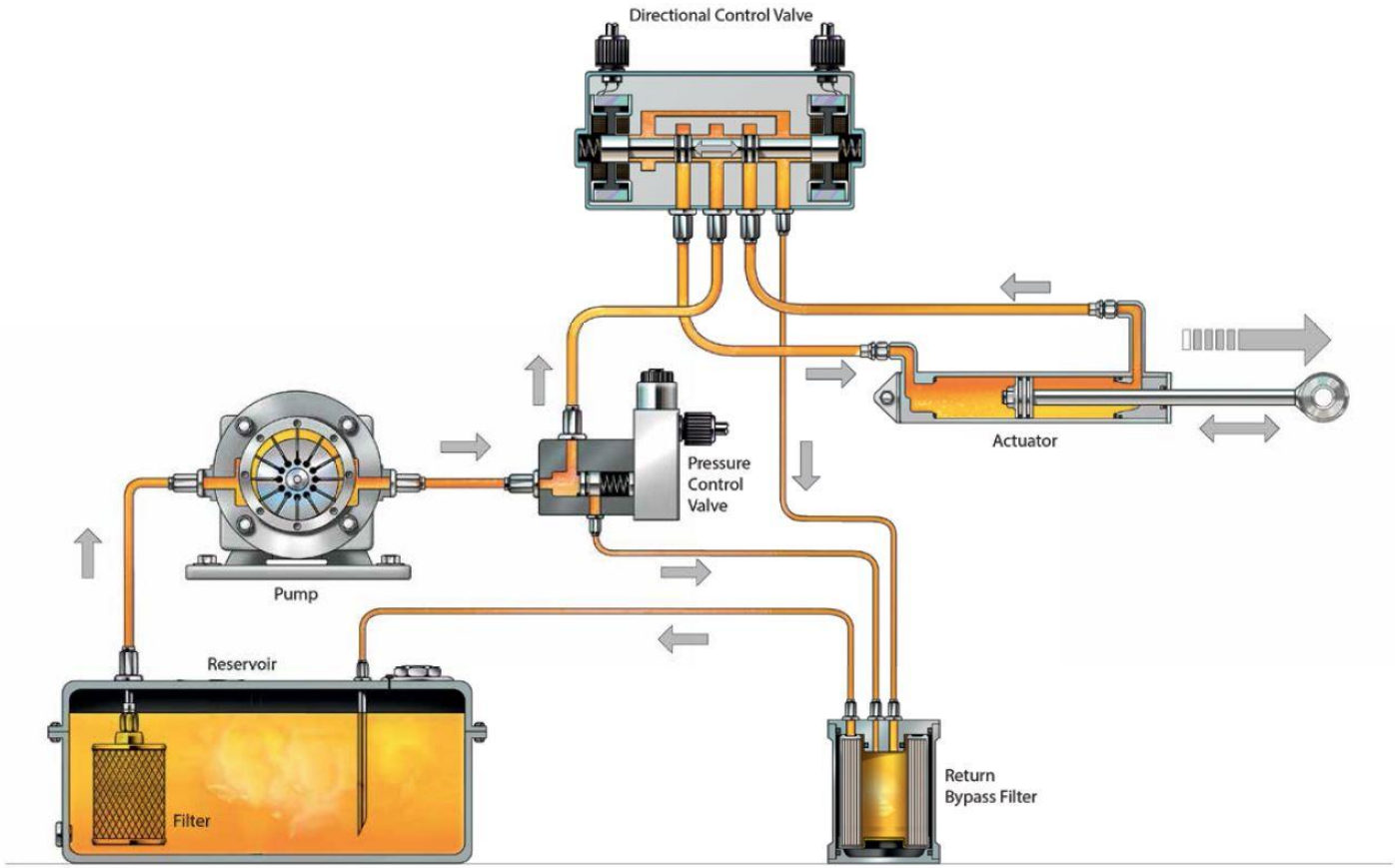
- **Temperaturi de functionare scazute / potential de reducere a consumului de energie**

Test Results – End of Test Pictures



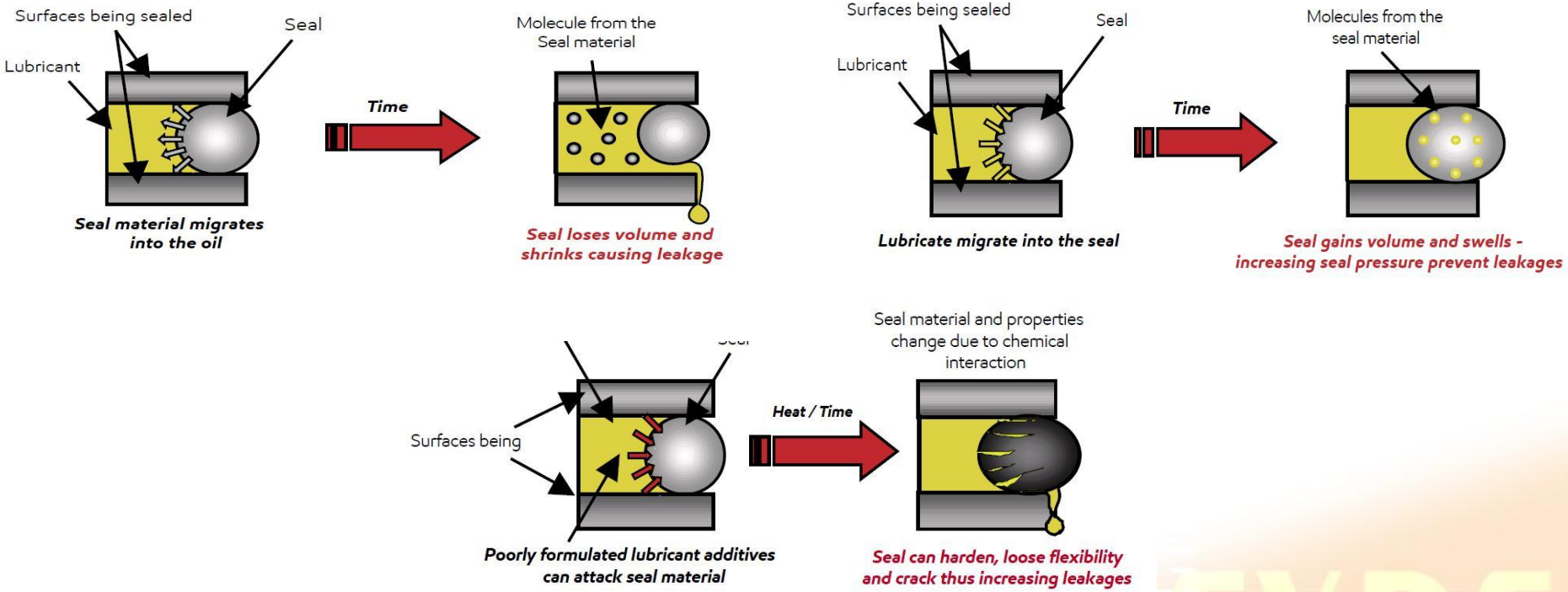
Mobil DTE 10 Excel Reduced Pump Temperature = Improved Efficiency

Sisteme hidraulice

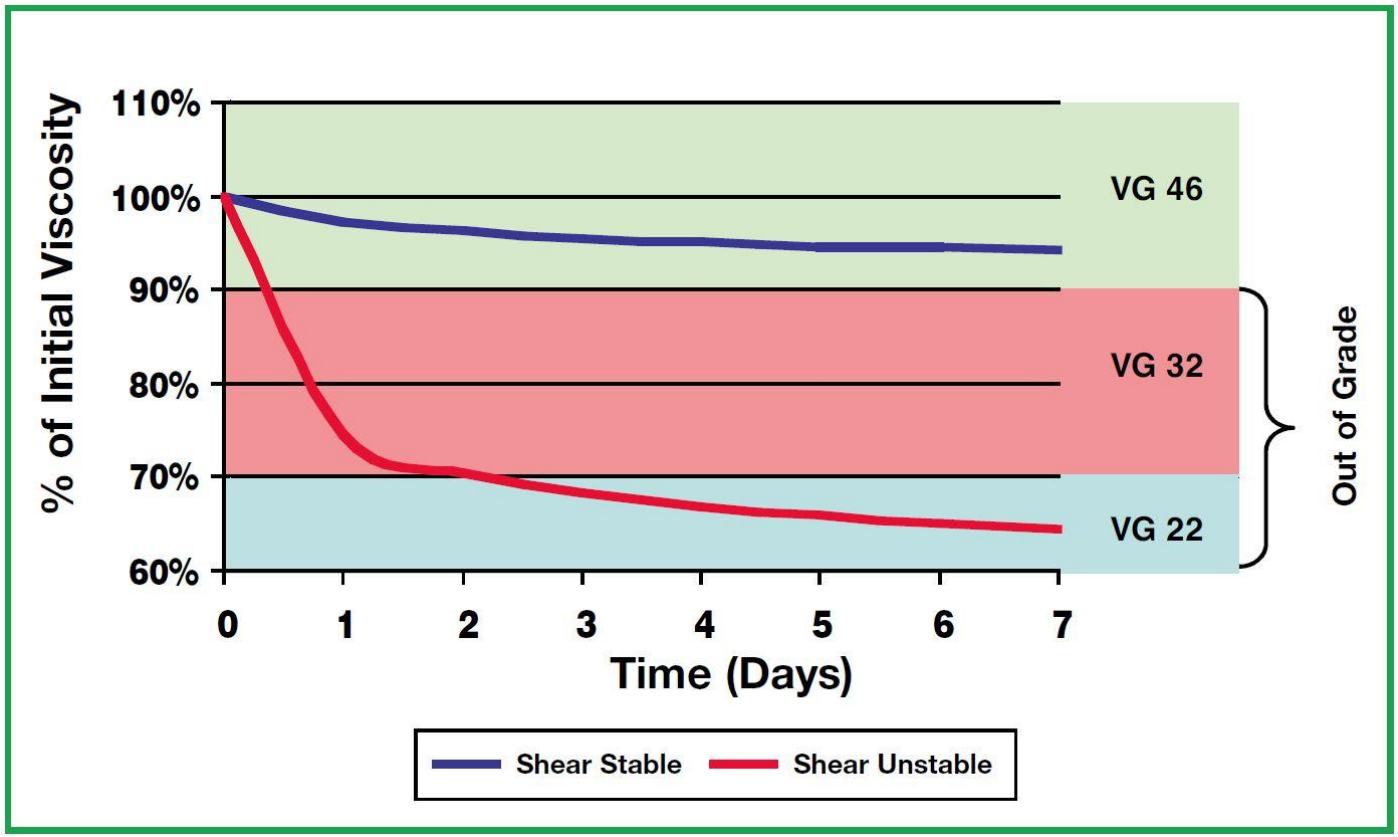


- **Proprietati de pastrarea a sistemului hidraulic intr-o stare foarte curata/ reducerea depunerilor, reducerea costurilor de mentenanta, cresterea duratei de viata a componentelor**

- **Compatibilatate cu materialele garniturilor/ extinderea duratei de utilizare a garniturilor, reducerea pierderilor accidentale de ulei, costuri de mentenanta scazute**



- **Rezistenta la forfecare, pastrarea gradului de viscozitate/ potential de reducere a consumului de energie, protectia componentelor sistemului hidraulic**

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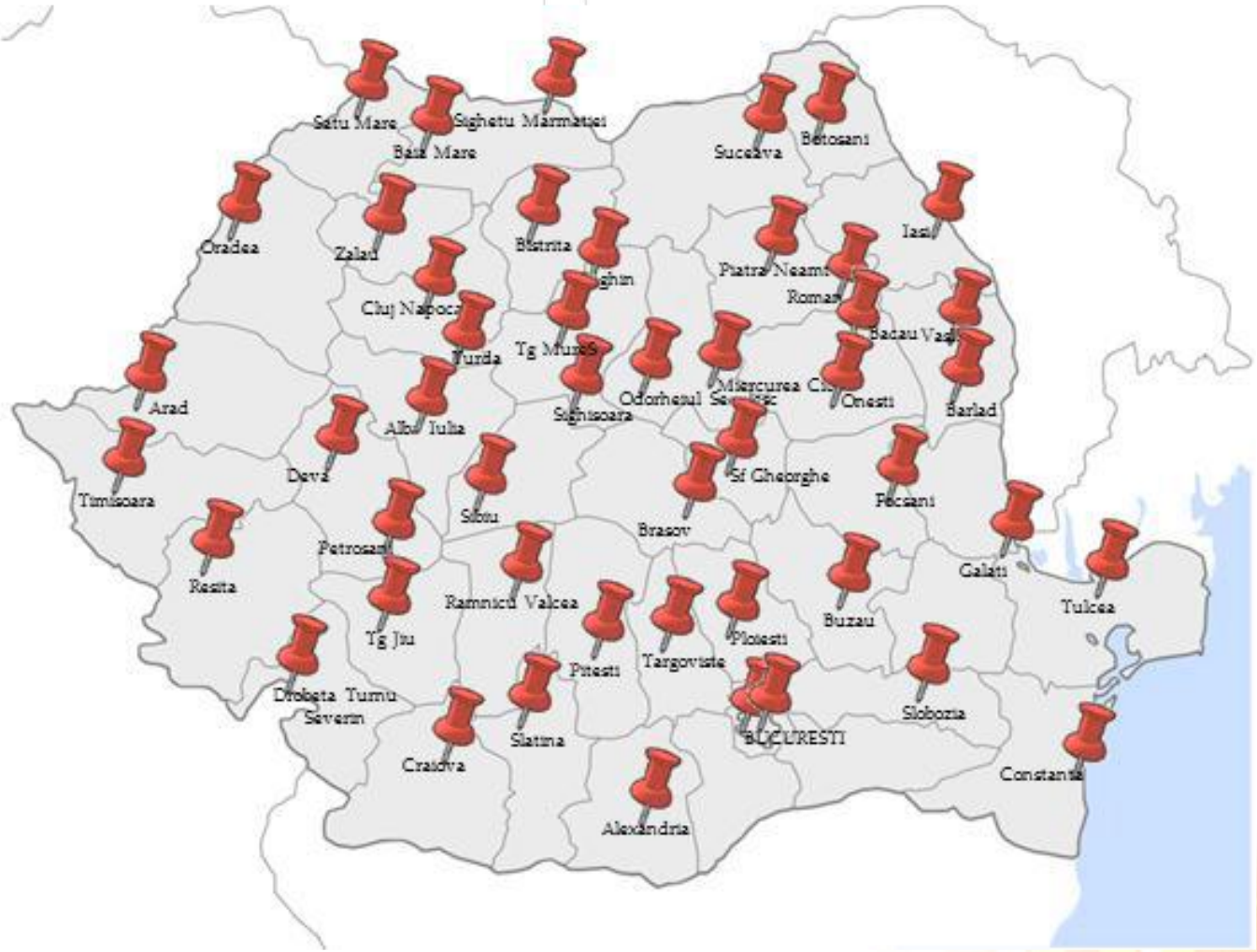

LUBEXPERT® Romania SRL

Mobil™

Performance by ExxonMobil

Va multumim pentru atentie!

SRAC ISO 9001 SRAC ISO 14001