

QUALITY ENDURES.



ORGANIC FRICTION MODIFIER

Motion.Mastered.

X Additin® RC 3502

**QUALITY
WORKS.**

LANXESS

Energizing Chemistry

**LANXESS HAS DEVELOPED A
TRULY UNIQUE ORGANIC FRICTION
MODIFIER LUBRICANT ADDITIVE
WHICH CONTRIBUTES UP TO A 5%¹⁾
IMPROVEMENT IN FUEL ECONOMY
FOR THE PASSENGER CAR MOTOR
OIL MARKET.**

¹⁾fuel economy benefit calculated from sequence
VIE engine test FEI sum over SAE20W-30 baseline





IMPROVED FUEL EFFICIENCY & ENHANCED **PERFORMANCE** **RETENTION**

Effective lubrication plays a critical role in fuel efficiency. The automotive industry's increased attention to greater fuel economy and lower emissions, creates the need for lower viscosity engine oils and non metallic lubricant additives.

LANXESS's new patented organic friction modifier lubricant additive **Additin® RC 3502** delivers significantly enhanced friction reduction, performance retention and anti-wear protection.

Our new technology provides formulators the option to increase fuel economy while reducing the levels of metallic friction modifiers, without compromising fuel efficiency performance. Fully compatible with all synthetic engine oils and non corrosive, our additive delivers outstanding performance when needed the most.

**‘ MAKE YOUR MOVE
TOWARDS TRUE
MOTION TODAY. ’**

PRODUCT FEATURES

- Organic with zero sulfated ash, phosphorus and sulfur
- Non-corrosive, stable
- Clear, light amber liquid - compatible in a range of Group I – V formulations

BENEFITS

- Friction reduction performance is far greater than current organic friction modifiers
- Enhanced performance retention (GMO, molybdenum friction modifiers lacking in durability)
- Optimize molybdenum friction modifier concentrations without compromising friction reduction performance
- Fully compatible and safe with all oil and additive types
- Greater friction reduction with Mg sulfonate detergents (including **Hybase® M-401**)

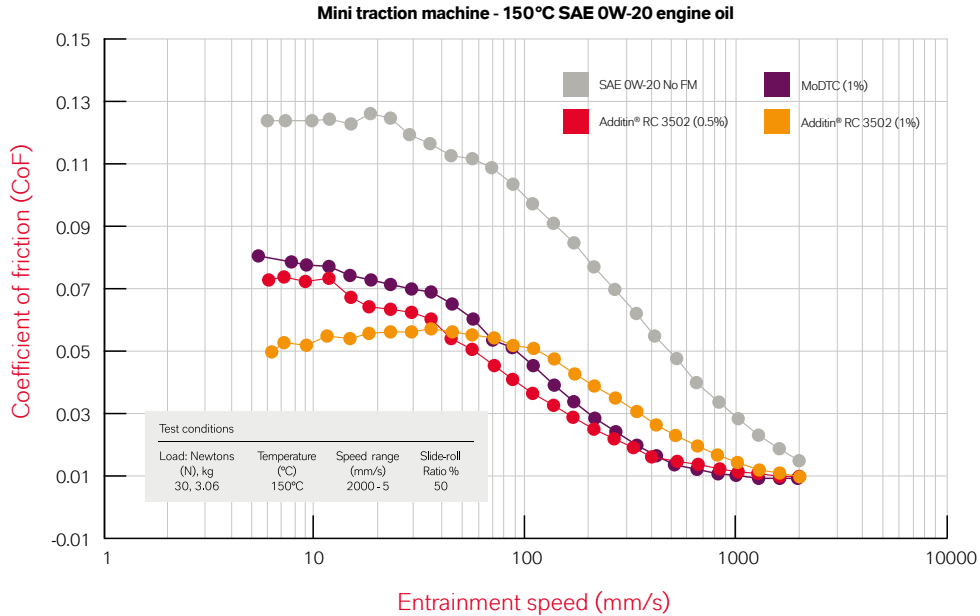
KEY MARKETS & APPLICATIONS

- Passenger car engine oil
- High performance racing oil
- Heavy duty diesel oil
- Railroad oil



TRIBOLOGY DATA FRICTION REDUCTION WITH SPEED - STRIBECK CURVE

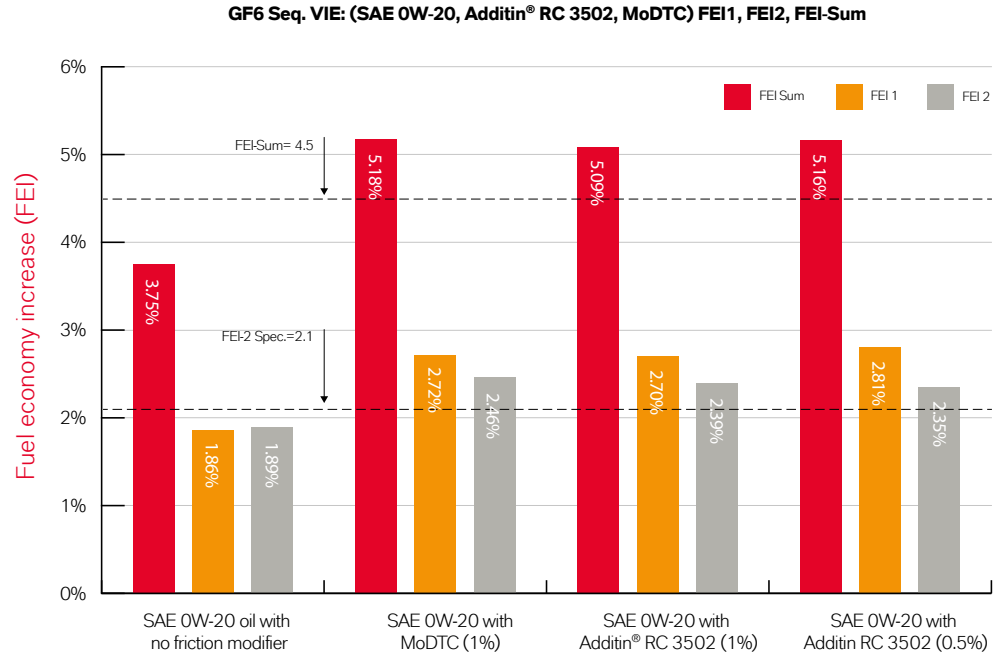
PASSENGER CAR MOTOR OIL



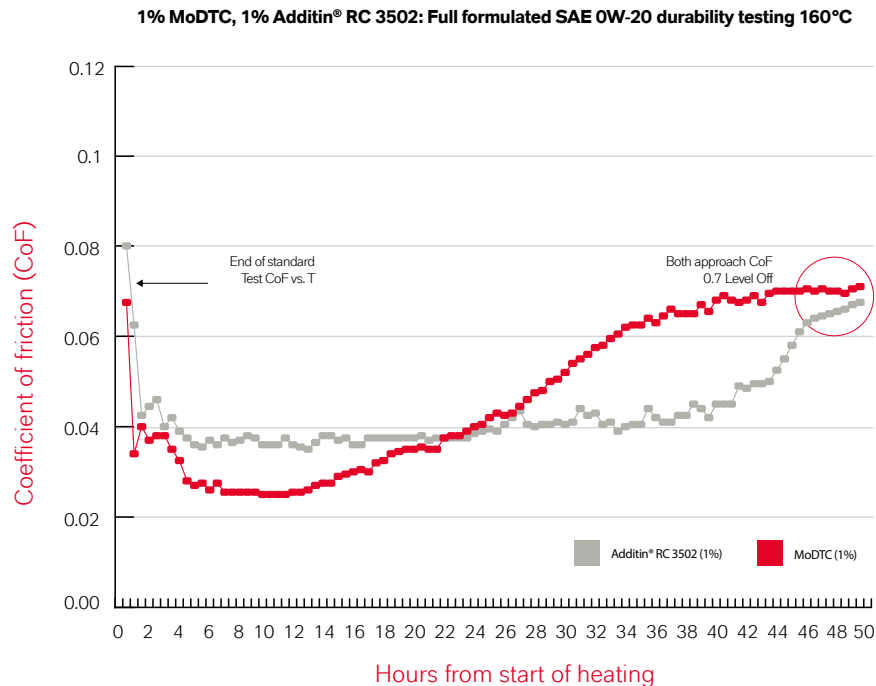
- **Boundary lubrication at lower speeds** - responds
- Lower viscosity oils have **higher CoF at boundary**
- **Organic friction modifier (Additin® RC 3502)** does not need time to activate

ENGINE DATA (SEQUENCE VIE) FUEL ECONOMY INCREASE PASSENGER CAR MOTOR OIL

- 5% FEI-Sum over SAE 20W-30 baseline ~1.2x proposed specifications for GF6
- FEI retention values 84% - 90%
- **MoDTC, Additin® RC 3502** similar performance
- Strong performance of **Additin® RC 3502** even at 0.5%



TE-77 FRICTION MODIFIER PERFORMANCE RETENTION EXTENDED HOLD STUDY



- Isothermal (160°C) study of friction change over time
- Initially **MoDTC** has better friction performance than **Additin® RC 3502** up to 12hrs
- After 12hrs there is a steady loss in friction performance up to 32hrs which is not observed in **Additin® RC 3502**
- **Additin® RC 3502** remains constant up to 46hrs after which time **MoDTC** and **Additin® RC 3502** are equivalent in friction reduction performance



LANXESS Deutschland GmbH
Business Unit Lubricant Additives
Kennedyplatz 1
50569 Cologne, Germany

Customers in the USA are kindly
requested to refer to:
LANXESS Corporation
Business Unit Lubricant Additives
2 Armstrong Road
Shelton, CT 06484, USA

lubricant.additives@lanxess.com
<http://lab.lanxess.com>

This information and our technical advice – whether verbal, in writing or by way of trials – is subject to change without notice and given in good faith but without warranty or guarantee, express or implied, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

Unless specified to the contrary, the values given have been established on standardized test specimens. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that the results refer exclusively to the specimens tested. Under certain conditions, the test results established can be affected to a considerable extent by the processing conditions and manufacturing process.

©2020 LANXESS.

Additin®, Hybase®, LANXESS and the LANXESS Logo are trademarks of LANXESS Deutschland GmbH or its affiliates. All trademarks are registered in many countries in the world.

This document contains important information and must be read in its entirety.