# **Delo® 400 MGX SAE 15W-40**



Superb Protection in High- or Low-Sulfur Diesel Fuels



# Let's Go Further with Delo® 400 MGX SAE 15W-40.

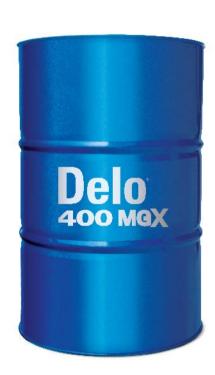
# When your heavy-duty equipment is working, your business is driving profits. At Chevron, our goal is to give you the confidence to safely push diesel engines further to help minimize operating costs and maximize performance.

As your lubrication partner, we strive to help keep your diesel equipment running reliably whether it burns low- or high-sulfur diesel fuel.

We understand the challenges facing diesel customers today and in the future:

- New engine technology development
- · OEM requirements and specifications
- Alternative fuel use (low-sulfur diesel, high-sulfur diesel, biodiesel and natural gas)
- Extending oil-drain intervals
- Emission standards
- Fuel economy

Count on Chevron's industry experience, technology leadership and the Delo family of premium products to help you stay ahead of these challenges and protect and maximize the life of your vehicles.





#### Reliability Is Our Priority.

Chevron lubricants stand for one thing above all else: reliability. Properly lubricating the inside of a heavy-duty diesel engine requires more than just creating a protective film. Chevron's new advanced formula Delo 400 MGX SAE 15W-40 provides excellent soot dispersancy, wear protection and sludge control to guard against loss of engine life and help reduce fuel and oil consumption. Whether you have new or older engines, and burn either low- or high-sulfur diesel fuel, Delo 400 MGX SAE 15W-40 has been formulated with ISOSYN® Technology to specifically protect your diesel equipment and vehicles, and reduce the need for multiple diesel engine oils. Delo's industry-leading lubricants have logged billions of miles and countless hours providing superior protection to diesel engine parts so your vehicles and equipment can go further.

# **Delo® Protects with ISOSYN® Technology.**

# The Delo 400 MGX differentiator, ISOSYN Technology, gives you the performance, protection and confidence you need to help your business go further.

Chevron uses ISOSYN Technology to formulate its top-tier Delo products. Premium base oils with highperformance additives, combined with our formulation expertise, provide superb protection for diesel engine parts — at an outstanding value.

### **ISOSYN Technology**



Expertise



### Delo with ISOSYN helps:

- Extend service protection
- Maximize engine durability
- · Minimize operating costs

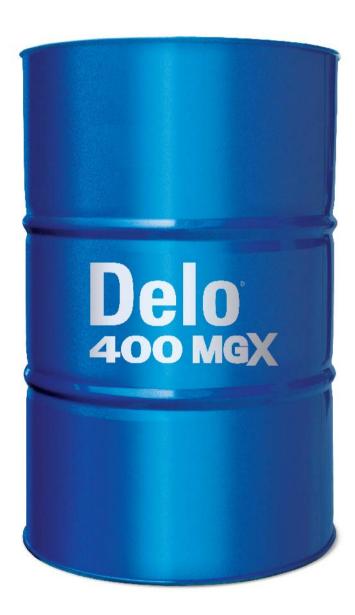
### **Improved Customer Reliability**

Delo with ISOSYN Technology protects critical engine parts to help maximize engine and equipment life.



# Delo® 400 MGX SAE 15W-40 Exceeds Industry Specifications and OEM Approvals.

Delo 400 MGX SAE 15W-40 is a world-class diesel engine oil formulated to provide superb diesel parts protection in **EITHER** low- or high-sulfur diesel fuel.



Delo 400 MGX SAE 15W-40 has been specifically formulated to provide superb protection and performance in severe operating conditions, regardless of the type of diesel engine (older or newer low emissions) or fuel sulfur level burned in the engine. Its unique formulation and wide range of operating capability help minimize the number of diesel engine oils required by customers.

# Delo 400 MGX SAE 15W-40 exceeds industry and most engine manufacturers' performance requirements:

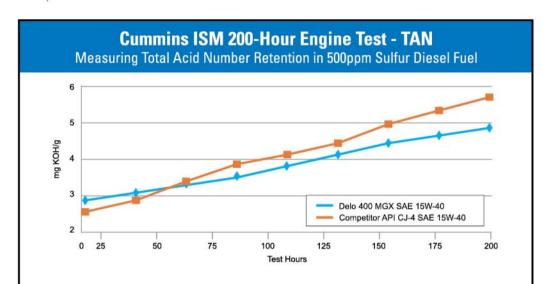
- API CJ-4 / API CI-4+ / API SM
- ACEA E9 / E7
- Cummins CES 20081
- Volvo VDS-4
- Mack Premium Plus EO-0
- CAT ECF-3 / ECF-2
- MB 228.31
- MTU Category 2.1
- MAN 3575
- Deutz DCQ III 10 LA

# Delo® 400 MGX Delivers Proven Performance Results. EXCELLENT BASE NUMBER RETENTION AND ACID NEUTRALIZATION

# Delo 400 MGX has undergone a robust testing program including measuring its performance in 500ppm sulfur diesel fuel.

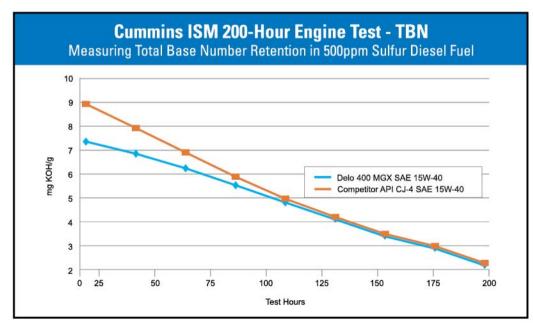
The Cummins ISM Engine test helps show the ability of an engine oil to neutralize acid when burning higher sulfur diesel fuel. It's an important first test to show how well an engine oil will perform before advancing to field testing.

Delo 400 MGX was run in this engine test stand and performed very well head-to-head against a leading competitor SAE 15W-40 oil in acid neutralization.



#### **Engine Test - Total Acid Number**

Delo 400 MGX SAE 15W-40 was tested head-to-head against a leading competitor SAE 15W-40 oil and showed improved acid neutralization capability using 500ppm sulfur diesel fuel.



#### **Engine Test - Total Base Number**

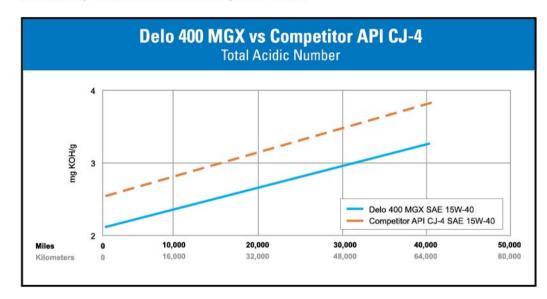
In measuring additional base number protection, Delo 400 MGX SAE 15W-40 showed a lower rate of base loss versus a leading competitor SAE 15W-40 oil. This indicates extended acid neutralization performance which protects critical diesel engine parts.

extended oil-drain intervals.

# Delo® 400 MGX SAE 15W-40 in Real World Testing **EXCELLENT PROTECTION IN EXTENDED-DRAIN APPLICATIONS**

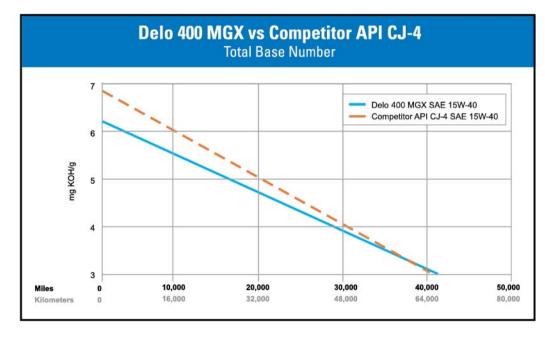
Delo 400 MGX has been thoroughly tested to show its performance capability in neutralizing harmful acids and retaining its base number in extended-drain operations using either low- or high-sulfur diesel fuels.

In head-to-head field testing, we tested Delo 400 MGX SAE 15W-40 against a well-known leading competitor API CJ-4 product. Delo 400 MGX SAE 15W-40 performed well with comparable TBN retention and showed directionally better acid neutralization performance.



#### Used Oil Analysis -**Total Acid Number**

Delo 400 MGX shows superb acid neutralization even in extended-drain applications and performed directionally better than a leading competitor API CJ-4 oil



#### **Used Oil Analysis -Total Base Number**

Delo 400 MGX shows lower rate of base number loss indicating its capability to neutralize acids and still retain its effectiveness even in extended-drain applications. Shows directionally better performance than a leading competitor API CJ-4 engine oil.

# Delo 400 MGX SAE 15W-40 protects diesel engines even at extreme

Fully field tested, Delo 400 MGX SAE 15W-40 has shown superb performance in extended-drain applications using lowand high-sulfur diesel fuels. In both Cummins and Detroit Diesel engines, Delo 400 MGX SAE 15W-40 achieved greater than 60,000-kilometer oil-drain intervals in both types of engines, while protecting diesel parts. The engines were torn down after 800,000+ total kilometers on the engines and parts were inspected, showing minimal deposits and wear.

**Delo® 400 MGX Provides Superb Diesel Parts Protection.** 

#### **Cummins ISX Engine**

Run at 64,000-kilometer oil-drain intervals, these engine parts show the excellent performance provided by Delo 400 MGX SAE 15W-40. The parts shown below showcase the performance achieved by Delo 400 MGX in real world operating conditions.

#### Piston Minimal crown and ring land deposits indicate excellent dispersant and detergent performance of Delo 400 MGX SAE 15W-40 --- even at

#### **Main Bearings**

Very good condition with minimal overlay remova shown. This indicates the oil has provided excellent corrosion and wear protection.



### **Connecting Rod Bearings**

64,000-kilometer extended oil-drain intervals.

Very good condition and show no exposed copper and minimal overlay removal. Indicates the excellent wear protection provided by Delo 400 MGX SAE 15W-40.



#### Oil Pan

Oil pan is clean of visible sludge or deposits after extended oil-drain intervals highlighting the effective dispersant performance of Delo 400 MGX SAE 15W-40.



#### **Detroit DD15 Engine**

Run at 80,000-kilometer oil-drain intervals, these parts show the excellent performance provided by Delo 400 MGX SAE 15W-40. The parts shown below highlight the effective protection offered by Delo 400 MGX SAE 15W-40.

#### Piston

Minimal crown land deposits and in very good condition after 80,000-kilometer oil-drain intervals. Showcases the superb deposit control provided by Delo 400 MGX SAE 15W-40.

# **Connecting Rod Bearings**

Very good condition with minimal overlay removal shown. This indicates the oil has provided excellent corrosion protection.



### **Main Bearings**

Very good condition and show no exposed copper and minimal overlay removal. Indicates the excellent wear protection provided by Delo 400 MGX SAE 15W-40.



At extreme extended oil-drain intervals Delo 400 MGX SAE 15W-40 can neutralize harmful acids and disperse soot. Shows no deposit or sludge buildup in the oil pan.





