



DELO[®] 400 HEAVY-DUTY ENGINE OIL

Product Offering, Application and Competitive Comparison



ISOSYN
ADVANCED
TECHNOLOGY™

Delo[®]
Let's go further.®

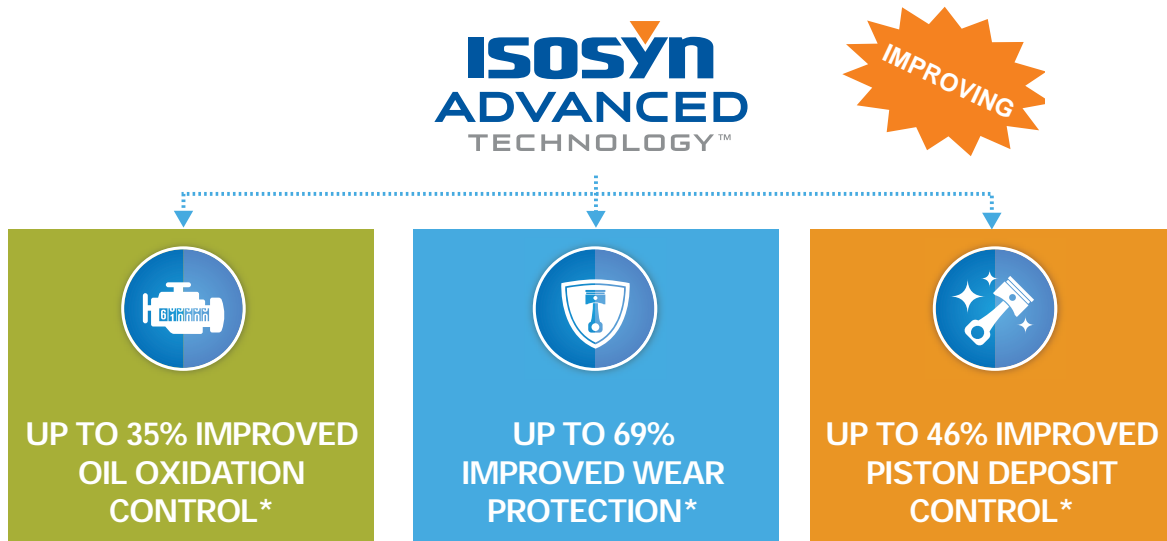
DELO[®] HEAVY-DUTY ENGINE OIL DELIVERS

Delo[®] Heavy-Duty Engine Oil with ISOSYN[®] ADVANCED TECHNOLOGY

Delo with innovative ISOSYN ADVANCED TECHNOLOGY is here. Delivering industry leading durability, reliability and efficiency. It works in synergy with the changing conditions in your engine to maximize protection, optimize performance and extend oil life.

ISOSYN ADVANCED TECHNOLOGY

What is it? The combination of Chevron's outstanding formulation expertise, unique high performance additive chemistry and premium base oils helps extend the durability of critical diesel engine parts.



**As compared to API CJ-4 test requirements*

Improved durability, reliability and efficiency: Delo 400 products formulated with ISOSYN ADVANCED TECHNOLOGY can provide improved engine longevity, extended oil drain performance, and excellent diesel component parts protection, helping to extend vehicle life and minimize the total cost of ownership when compared with previous generation Chevron HDMO formulations.

In addition, Delo 400 low viscosity oils formulated with ISOSYN ADVANCED TECHNOLOGY will help optimize fuel efficiency performance and total cost savings.

TEAR-DOWN PARTS TELL THE STORY

Chevron's new API CK-4 and API FA-4 formulations have been undergoing a broad field test program.



Delo 400 XLE SAE 10W-30

Operation: Hoge Motor Co. haul aluminum on flatbed trailers

Engine: Mack MP8, 885k+ km (550k+ miles)

"Chevron and Delo and their products have just been great, and I have no worries. I know they're going to perform flawlessly – hot temperatures, cold temperatures, no matter what, they've always done their job."

– Tommy Hoge, Co-Owner, Hoge Motor Co.



Delo 400 ZFA SAE 10W-30

Operation: Boaty's Transport haul perishable goods in refrigeration trailers

Engine: Paccar MX 13, 850k+ km (530k+ miles)

"When I first started trucking we used to have to change main rods and bearings at 480,000 km (300,000 miles). Now, we don't change until a million." – Michael "Boaty" Boatwright.

Boaty's reported a 2%* improvement in fuel efficiency relative to an SAE 15W-40 oil.

*1.2% is typical



Delo 400 XSP SAE 5W-30

Operation: Ozark Motors haul dry goods freight throughout the US

Engine: DDC DD15, 772k+ km (480k+ miles)

"When I got here in 2003, we were changing oil at 40,000 km (25,000 miles). Today, with the next generation of 5W-30 full synthetic, we've got the fleet at 120,000 km (75,000 miles) and planning to stretch that to 160,000 km (100,000 miles)" – Glen McDonald, Director of Maintenance, Ozark Motors

Pistons

Pistons are very clean with no visible deposit buildup on the crown ring land area



Main Bearings

Bearings are in very good condition with no visible overlay removal



Pistons

Pistons are clean with minimal deposit buildup on the crown or ring land area

















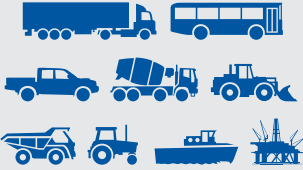
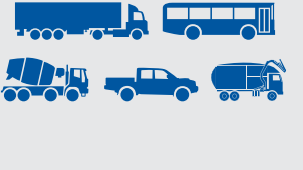



When extending oil drains, always follow OEM recommendations and utilize used oil analysis.

Delo[®]
Let's go further.[®]

CHEVRON DELO® HEAVY-DUTY ENGINE OIL PRODUCT LINE

Benefits / Application / Performance

HIGH PERFORMANCE SYNTHETICS			
PRODUCT	Delo 400 XSP	Delo 400 XSP	Delo 400 SP
IMAGE			
VISCOSITY GRADE / API LEVEL	SAE 5W-40 / API CK-4/SN	SAE 5W-30 / API CK-4/SN	SAE 0W-30
PRODUCT BENEFITS	   	     	  
VEHICLE / EQUIPMENT APPLICATION			
PERFORMANCE CAPABILITIES	<ul style="list-style-type: none"> ✓ Cold weather startup ✓ High temperature protection ✓ Excellent wear protection ✓ Delo Warranty Plus Protection 	<ul style="list-style-type: none"> ✓ Up to 40% improved low temperature cranking viscosity* ✓ Up to 2% improved fuel efficiency** ✓ Delo Warranty Plus Protection 	<ul style="list-style-type: none"> ✓ Up to 50% improved low temperature cranking viscosity* ✓ Fuel efficiency benefits ✓ Engine durability protection ✓ Delo Warranty Plus Protection
PERFORMANCE DETAILS		<p>* Based on SAE J300 low temperature cranking viscosity versus SAE 15W-40</p> <p>** Based on Volvo D12D engine test stand compared to API CJ-4 SAE 15W-40</p>	<p>* Based on SAE J300 low temperature cranking viscosity versus SAE 15W-40</p>

EXCEPTIONAL SYNBLEND PROTECTION

CONVENTIONAL DURABILITY

Delo 400 ZFA

Delo 400 XLE

Delo 400 XLE

Delo 400 SDE

Delo 400 NG



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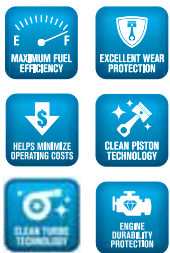
SAE 10W-30 / API FA-4/SN

SAE 15W-40 / API CK-4/SN

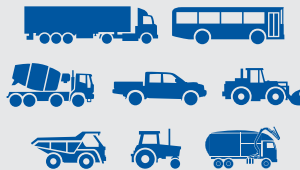
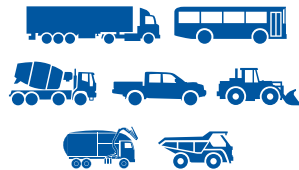
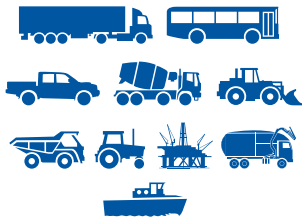
SAE 10W-30 / API CK-4/SN

SAE 15W-40 / API CK-4/SN

SAE 15W-40 /
NATURAL GAS CNG/LNG



- ISOSYN Technology
- Heavy Duty CNG/LNG Performance
- Extended drain capable for newer CNG engines
- Cummins CES 20085 approved for CNG/LNG performance



- ✓ Up to 20% improved fuel efficiency versus API CJ-4 SAE 10W30*
- ✓ Up to 32% better wear protection versus API CJ-4**
- ✓ Helps minimize operating costs
- ✓ Delo Warranty Plus Protection

- ✓ Up to 35% longer oil life*
- ✓ Up to 69% better wear protection**
- ✓ Up to 33% reduction in piston deposits***
- ✓ Delo Warranty Plus Protection

- ✓ Up to 25% improved low temperature cranking viscosity*
- ✓ Up to 1% improved fuel efficiency**
- ✓ Delo Warranty Plus Protection

- ✓ Up to 50% better wear protection versus API CJ-4*
- ✓ Delo Warranty Plus Protection

- ✓ Excellent nitration and oil oxidation control
- ✓ Extended drain capable in CNG/LNG HD engines
- ✓ Provides excellent engine cleanliness
- ✓ Delo Warranty Plus Protection

* Based on Volvo D12D engine testing, an SAE 10W-30 API CK-4 product delivered 1%, and SAE 10W-30 API FA-4 product delivered 1.2% reduced fuel consumption, relative to an SAE 15W-40 API CJ-4 product.

* Based on API CK-4 oxidation test limits

** Based on API CJ-4 wear test limit

*** Based on performance relative to Daimler MB 228.31 requirements

* Based on SAE J300 low temperature cranking viscosity versus SAE 15W-4

** Based on Volvo D12D engine test comparison to SAE 15W-40

*Based on API CJ-4 wear test limit

** Based on API CJ-4 wear test limits

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API CK-4 AND API FA-4 COMPETITIVE COMPARISON

	SYNTHETICS		
API LEVEL	API CK-4/SN	API CK-4/SN	API FA-4/SN
	Delo® 400 XSP  SAE 5W-30	Delo 400 XSP  SAE 5W-40	Delo 400 ZFA  SAE 10W-30
Shell	Rotella T6 Multi-Vehicle SAE 5W-30	Rotella T6 SAE 5W-40	Rotella T5 Ultra SAE 10W-30
Mobil	Mobil Delvac 1 ESP SAE 5W-30	Mobil Delvac 1 ESP SAE 5W-40	Mobil Delvac Extreme FE SAE 10W-30
Valvoline	No Product	Premium Blue Extreme SAE 5W-40	Premium Blue 8700 +FE SAE 10W-30
Petro-Canada	Duron UHP SAE 5W-30	Duron UHP SAE 5W-40	Duron Advanced SAE 10W-30
Phillips 66	Triton Euro / SHP Euro SAE 5W-30	Triton ECT / SHP SAE 5W-40	Super-D FE / Guardol FE SAE 10W-30
Castrol	Elixion SAE 5W-30	No Product	Vecton Advanced SAE 10W-30

Never use this cross-reference for making final Chevron HDMO product recommendations to customers. Always check OEM recommendations and customer operating conditions to provide the correct Chevron HDMO product. Competitors' products listed are not intended to represent equivalent performance to Chevron HDMO products.

SYNTHETIC BLENDS		PREMIUM CONVENTIONAL	MARKET GENERAL
API CK-4/SN	API CK-4/SN	API CK-4/SN	API CK-4/SN
Delo 400 XLE  SAE 10W-30	Delo 400 XLE  SAE 15W-40	Delo 400 SDE  SAE 15W-40	Ursa Super Plus EC  SAE 15W-40 / 10W-30
Rotella T5 SAE 10W-30	Rotella T5 SAE 15W-40	Rotella T4 SAE 15W-40 / SAE 10W-30	Rotella T3 / T2 SAE 15W-40
Mobil Delvac Extreme SAE 10W-30	Mobil Delvac Extreme SAE 15W-40	Mobil Delvac 1300 Super SAE 15W-40 / SAE 10W-30	Mobil Fleet SAE 15W-40
Premium Blue 8600 ES SAE 10W-30	Premium Blue 8600 ES SAE 15W-40	All Fleet Plus E-900 SAE 15W-40 / SAE 10W-30	No Product
Duron SHP SAE 10W-30	Duron SHP SAE 15W-40	Duron HP SAE 15W-40	No Product
Super-D XA / Guardol ECT SAE 10W-30	Super-D XA / Guardol ECT SAE 15W-40	Super-D EC / Fleet Supreme EC SAE 15W-40 / SAE 10W-30	No Product
Vecton SAE 10W-30	Vecton SAE 15W-40	Tection HD SAE 15W-40	No Product



SEGMENT AND PERFORMANCE BENEFIT ICON REFERENCE

SEGMENT LEGEND

ICON	SEGMENT
	On-Road
	Buses
	Cement
	Waste
	Light Duty Diesel
	Construction
	Mining
	Agriculture
	Oil & Gas
	Marine

PERFORMANCE BENEFIT ICONS LEGEND

ICON	PERFORMANCE BENEFIT
	Extreme Cold Pumpability
	Fuel Efficiency Benefits
	Maximum Engine Durability Protection
	Maximum Fuel Efficiency
	High Temperature Protection
	Engine Durability Protection
	Extended Oil Drain Protection
	Excellent Wear Protection
	Helps Minimize Operating Costs
	Cold Weather Start Up
	Clean Turbo Technology
	Clean Piston Technology



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