



DURON™ -E API CJ-4 HEAVY DUTY ENGINE OILS

Introduction

Petro-Canada DURON-E multigrade engine oils are premium heavy duty engine oils that meet the current requirements of API CJ-4 as well as upcoming 2010 standards. DURON-E products are suitable for use in current and 2010 EPA compliant low emission engines which employ advanced exhaust after treatment devices such as diesel particulate filters (DPF) with or without diesel oxidation catalysts (DOC), increased rates of Exhaust Gas Recirculation (EGR) and Selective Catalytic Reduction (SCR). DURON-E heavy duty engine oils are suitable for use in engines powered by both ultra low and low sulphur diesel. DURON-E is back serviceable and carries the API CI-4 Plus, CI-4, CH-4 licenses required by pre-'07 diesel engines.

DURON-E is specially formulated with a high performance additive system in combination with the patented HT purity process to produce 99.9% pure, crystal-clear base oils - one of the purest in the world. DURON-E is formulated to the highest API 4-stroke diesel and gasoline engine oil performance standards and is suitable for use in extended oil drain service. The keys to success in extending service intervals are good operating practices and maintenance programs including a regular oil analysis program. Contact your Petro-Canada technical representative for additional information and assistance.

Features and Benefits

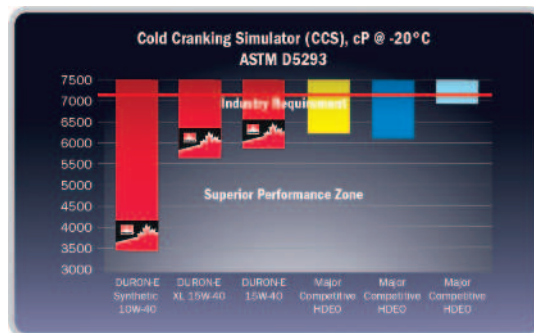
DURON-E CJ-4 Heavy Duty Engine Oil offers a number of performance upgrades versus the earlier CI-4 Plus/CI-4 category:

- **Emission system friendly**
 - Low ash formula helps prevent premature DPF plugging and shortened maintenance intervals

- **Enhanced soot control**
 - Helps reduce oil thickening and related engine wear
- **Maintains shear stability**
 - High oil film strength for high temperature protection
 - Stays in grade and helps protect your engine
- **Reduced oxidative thickening**
 - Extends drain intervals
 - Maintains low temperature performance
- **Reduced oil consumption**
 - Reduces the need for top-up oil
- **Reduced valve train wear**
 - Helps extend engine life
- **Reduced piston deposits**
 - Advanced engine protection
 - Helps maintain engine power and fuel efficiency
- **Corrosion protection**
 - Helps reduce engine corrosion, particularly in idle equipment

What is the HT difference?

Petro-Canada starts with the patented HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



DURON-E provides better low temperature startability than its competitors. That gives you better protection from wear and better fuel economy during cold start-ups.

Recommended Applications

SPECIFICATIONS	DURON-E Synthetic 10W-40	DURON-E Synthetic 5W-40	DURON-E XL 15W-40	DURON-E 15W-40	DURON-E 10W-30
API CJ-4	•	•	•	•	•
API CI-4 Plus	•	•	•	•	•
API CI-4	•	•	•	•	•
API CH-4	•	•	•	•	•
API SM	•	•	•	•	•
API SL	•	•	•	•	•
API SJ	•	•	•	•	•
API SH	•	•	•	•	•
Caterpillar TO-2	•	•	•	•	•
Caterpillar ECF-1-a	•	•	•	•	•
Caterpillar ECF-2	•	•	•	•	•
Caterpillar ECF-3	•	•	•	•	•
Cummins CES 20077	•	•	•	•	•
Cummins CES 20078	•	•	•	•	•
Cummins CES 20081	•	•	•	•	•
Detroit Diesel Power Guard 93K218	•	•	•	•	•
Detroit Diesel Power Guard 93K214	•	•	•	•	•
JASO MA, MA2	•	•	•	•	•
Mack EO-N Premium Plus	•	•	•	•	•
Mack EO-N Premium Plus '03	•	•	•	•	•
Mack EO-O Premium Plus '07	•	•	•	•	•
Volvo VDS 4	•	•	•	•	•
Volvo VDS 3	•	•	•	•	•
Volvo VDS 2	•	•	•	•	•
ACEA E9 – 2008	•	•	•	•	•
ACEA E7 – 2008	•	•	•	•	•
MAN 271, MAN 3275	•	•	•	•	•
MB 228.31	•	•	•	•	•
Renault VI, RLD-3	•	•	•	•	•
DEUTZ DQC III 05	•	•	•	•	•

Product Line

DURON-E Synthetic 10W-40

Full synthetic all-season all fleet heavy duty diesel engine oil. Formulated with a premium additive system, Duron-E Synthetic 10W-40 is designed to give premium soot dispersancy and extended drain performance (exceeding OEM standard intervals)*. It improves fuel economy through ease of start-up, lower viscous drag and avoidance of the need for idling. It combines superior pumpability at - 35°C (5W grade requirement) with excellent engine wear control and oil top-up performance

Duron-E Synthetic 5W-40

Duron-E Synthetic 5W-40 provides all-season protection and performance, especially in low temperature environments. It helps conserve energy and reduces engine wear through ease of cold weather start-up and lower viscous drag

DURON-E XL Synthetic Blend 15W-40

DURON-E XL is manufactured with a synthetic base oil blend and high performance additives, delivering premium soot dispersancy control while extending drain intervals (exceeding OEM standard intervals) * even in maximum allowable load conditions. It also gives very good cold start-up performance and reduces the need for top-up oil. Vital engine parts are protected when you use DURON-E XL Synthetic Blend 15W-40 in your engine.

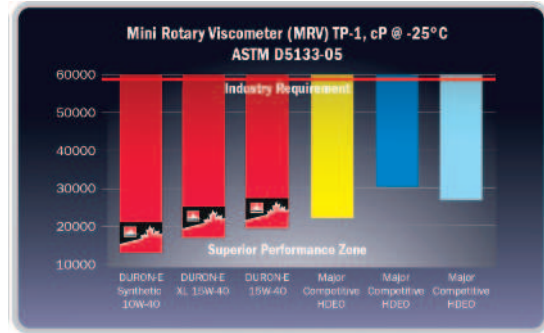
DURON-E 15W-40

DURON-E 15W-40 offers very good soot dispersing capabilities. It also demonstrates good cold start-up performance, minimizes engine wear and oil consumption. It demonstrated extended drain capabilities (exceeding OEM standard intervals)* while subjected to severe service conditions.

DURON-E 10W-30

DURON-E 10W-30 delivers very good soot dispersancy and cold start-up performance. It provides CJ-4/SM performance in a 10W-30 viscosity grade and protects exhaust catalysts and filters.

*Extending drain intervals should always be undertaken in conjunction with a regular oil analysis program.



DURON-E provides better low temperature flow at cold temperatures than its competitors. The higher the viscosity, the thicker the engine oil.

Applications

Car and Light Duty Diesel Engines

DURON-E engine oils are also suitable for use in diesel powered engines in smaller vehicles, including passenger cars and light trucks where API CJ-4, CI-4 Plus, CI-4, CH-4 or earlier specifications are required. Consult your owner's manual.

Gasoline and CNG Engines

DURON-E exceeds the latest API SM gasoline engine oil specification and is suitable for gasoline and CNG applications where API SM or earlier specifications are required. Suitable for use in wet clutch applications where JASO MA or MA2 is recommended.

Typical Performance Data

PROPERTY	ASTM TEST METHOD	DURON-E				
		SYNTHETIC 10W-40	SYNTHETIC 5W-40	XL 15W-40	15W-40	10W-30
Flash Point, °C / °F	D92	235 / 455	229 / 444	231 / 448	235 / 455	233 / 451
Kinematic Viscosity						
cSt @ 40°C / SUS @ 100°F		99 / 506	94.2 / 479	115 / 591	117 / 600	78 / 399
cSt @ 100°C / SUS @ 210°F	D445	15.1 / 79	15.39 / 81	15.5 / 81	15.4 / 81	11.6 / 66
Viscosity Index	D2270	160	173	142	139	142
High Temp/High Shear Viscosity cP @ 150°C	D4683	4.3	4.2	4.4	4.3	3.5
Cold Cranking Viscosity, cP @ °C	D5293	5957	5161	5686	5843	6159
		(-25°C / -13°F)	(-30°C / -22°F)	(-20°C / -4°F)	(-20°C / -4°F)	(-25°C / -13°F)
Pour Point, °C / °F	D5950	(-48 / -54)	(-51 / -60)	(-45 / -49)	(-42 / -44)	(-45 / -49)
Borderline Pumping Viscosity cP @ °C	D4684	24610	20520	17460	19960	18690
		(-30°C / -22°F)	(-35°C / -31°F)	(-25°C / -13°F)	(-25°C / -13°F)	(-30°C / -22°F)
Sulphated Ash, % wt	D874	< 1.0 %	< 1.0%	< 1.0 %	< 1.0 %	< 1.0 %
Total Base No. (TBN), mg KOH/g	D2896	10.3	8.8	10.3	8.3	8.6

The values quoted above are typical of normal production. They do not constitute a specification.

Health and Safety

To obtain Material Health and Safety Data Sheets, contact one of Petro-Canada's TechData Info Lines.

TechData Info Lines

If you would like to know more about Petro-Canada DURON-E heavy duty engine oils, or any other product in our complete line of quality lubricants, please contact us at:

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