PETRO-CANADA LUBRICANTS

AN HF SINCLAIR BRAND

# TECH DATA

# DURON™ HEAVY-DUTY DIESEL ENGINE OILS

## INTRODUCTION

Petro-Canada Lubricants' DURON™ line of premium performance multigrade diesel engine oils delivers industry leading protection against increased wear which can lead to lower productivity and impaired fuel economy. They're formulated to exceed API CK-4 specifications and are suitable for use in the latest 2017 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 heavy-duty engine oils are suitable for use in engines powered by both ultra low and low sulphur diesel fuel. DURON is back serviceable and carries the API service CJ-4, CI-4 Plus, CI-4, and CH-4 licenses required by pre-'10 diesel engines.

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DURON

THE TOUGHER. THE BETTER.

DURON is formulated from some of the purest base oils in the world, to the highest API diesel and gasoline performance standards for 4-Stroke engine oils and is suitable for use in extended oil drain service. Extending drain intervals should always be undertaken with good operating practices and maintenance programs including an oil analysis program.

## FEATURES AND BENEFITS

DURON heavy-duty diesel engine oils offer a number of premium performance features which include:

**Ultimate wear protection**

- Superior engine protection
- Maximizes uptime and helps lower maintenance costs
- Extends drain intervals

**Maintains shear stability**

- High oil film strength for high temperature protection
- Exceptional after shear viscosity retention helps protect the engine

**Reduced oxidative thickening**

- Extends drain intervals
- Maintains low temperature performance

**Reduced valve train wear**

- Maintains optimal engine output

**Reduced piston deposits**

- Excellent engine protection and cleanliness
- Helps maintain engine power and fuel efficiency

**Corrosion protection**

- Helps reduce engine corrosion, particularly in idling equipment

**Reduced oil consumption**

- Reduces the need for top-up oil

**Advanced soot control**

- Helps prevent soot agglomeration, which:
  - Minimizes soot related engine wear
  - Minimizes soot related viscosity increase, resulting in better maintenance of fuel economy and cold temperature performance and protection

**Emission system friendly**

- Low ash formula helps prevent premature DPF plugging and shortened maintenance intervals

Petro-Canada Lubricants specialty fluids, lubricants and greases have an advantage in quality and performance. That's because our formulas are created and reviewed by an expert team of Research & Development specialists who ensure our finished products deliver to the specifications we demand and the performance standards our customers need.

## PRODUCT LINE

DURON heavy-duty diesel engine oils listed here are formulated to exceed API CK-4 specifications. For a full list of Approvals and Recommendations, please see the chart on the following page.

### DURON HP 15W-40

DURON HP 15W-40 is a high performance heavy-duty engine oil that delivers all weather engine protection including dependable cold start up and exceptional shear stability. It can deliver extended drain capabilities (exceeding OEM standard intervals)†.

### DURON SHP 15W-40

DURON SHP 15W-40 is a Super High Performance synthetic blend heavy-duty engine oil that delivers exceptional performance. Outstanding shear stability combined with superior wear protection helps deliver comprehensive protection to vital engine parts over a wide range of operating conditions. DURON SHP 15W-40 is designed to handle more demanding operations, as well as extending drains.

### DURON SHP 10W-30

DURON SHP 10W-30 is a Super High Performance synthetic blend heavy-duty engine oil that delivers advanced engine protection and all-weather performance. It provides optimal engine durability and can deliver up to 1%* fuel economy improvements. DURON SHP 10W-30 keeps its fresh oil properties longer allowing for extended drains (versus OEM standard intervals)† and reduced need for top-up oil.

### DURON UHP 10W-40

DURON UHP 10W-40 is an Ultra High Performance synthetic all-weather heavy-duty diesel engine oil. It is formulated to provide exceptional protection against engine wear and extended drain performance (exceeding OEM standard intervals)† even in the harshest operating conditions and maximum allowable load conditions. It combines superior pumpability and shear stability with excellent engine wear control. DURON UHP 10W-40 can potentially help improve fuel economy through ease of start-up, lower viscous drag and avoidance of the need for idling.

### DURON UHP 5W-30

DURON UHP 5W-30 is an Ultra High Performance synthetic all-weather heavy-duty diesel engine oil formulated to provide fuel economy benefits and exceptional protection against engine wear and extended drain performance (exceeding OEM standard intervals)† even in severe operating conditions.

### DURON UHP 0W-40

DURON UHP 0W-40 is an Ultra High Performance heavy-duty engine oil specially formulated with a high performance additive system in combination with high quality synthetic base oils. DURON UHP 0W-40 may be used in extended oil drain interval service in extreme cold climates†.

### DURON UHP 0W-30

DURON UHP 0W-30 is formulated with extreme cold service in mind. It is an Ultra High Performance heavy-duty engine oils with top performance additives and high quality synthetic base oils that can help users extend oil drain intervals†.

### DURON UHP 5W-40

DURON UHP 5W-40 is an Ultra High Performance full synthetic heavy-duty engine oil that provides excellent 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 UHP E8-X 5W-30

DURON UHP E8-X 5W-30 is a synthetic high quality Ultra High Performance low SAPS and low viscosity Diesel engine oil specifically designed to outperform ACEA E8 requirements (as well as E4, E7 and E11). DURON UHP E8-X 5W-30 has a full complement of OEM approvals far exceeding major OEM requirements and provides excellent engine protection in tough environments. DURON UHP E8-X 5W-30 also helps to provide longer engine life, extended oil drain intervals†, excellent all weather performance and improved fuel economy in many applications.

### DURON UHP E8-X 10W-40

DURON UHP E8-X 10W-40 is a high quality Ultra High Performance low SAPS full synthetic diesel engine oil specifically designed to outperform ACEA E8 requirements and protect engines in severe conditions. With approvals far exceeding major European OEM requirements, DURON UHP E8-X 10W-40 provides exceptional engine protection, longer engine life, extended oil drain intervals, all weather performance and operating efficiency for many on-road and off-road applications.

† Extending drain intervals should always be undertaken in conjunction with an oil analysis program.
* Comparing an SAE 15W-40 with 4.1cP HTHS vs a 10W-30 with 3.5cP HTHS.

## APPROVALS AND RECOMMENDATIONS

★ Approved ● Suitable For Use ✓ Meets Specifications

| Products | DURON HP 15W-40 | DURON SHP 15W-40 | DURON SHP 10W-30 | DURON UHP 10W-40 | DURON UHP 5W-30 | DURON UHP 5W-40 | DURON UHP 0W-40 | DURON UHP 0W-30 | DURON UHP E8-X 5W-30 | DURON UHP E8-X 10W-40 |
|---|---|---|---|---|---|---|---|---|---|---|
| ACEA | ✓ E7, E11 | ✓ E7, E11 | ✓ E7, E11 | ✓ E7, E11 | ✓ E7, E9 | ✓ E7, E9 | | | ✓ E4, E7, E8, E11 | ✓ E4, E7, E8, E11 |
| API | ★ CK-4 / SN | ★ CK-4 / SN | ★ CK-4<br>● SN* | ★ CK-4 / SN | ★ CK-4<br>● SN* | ★ CK-4<br>● SN | ● CK-4 / SN | ● CK-4 / SN | ★ CK-4 | ★ CK-4 |
| Allison Transmission | | | | | | ★ TES 439 | | | | |
| CAT® | ✓ ECF-3, TO-2 | ✓ ECF-3, TO-2 | ✓ ECF-3, TO-2 | ✓ ECF-3, TO-2 | ✓ ECF-3 | ✓ ECF-3, TO-2 | ● ECF-3, TO-2 | ● ECF-3, TO-2 | ✓ ECF-3 | ✓ ECF-3 |
| Cummins | ★ CES 20086 | ★ CES 20086 | ★ CES 20086 | ★ CES 20086 | ★ CES 20086 | ★ CES 20086 | ● CES 20086 | ● CES 20086 | ★ CES 20086** | ★ CES 20086** |
| DAF | ✓ Standard Drain | ✓ Standard Drain | ● Standard Drain | ✓ Standard Drain | ● Standard Drain | ● Standard Drain | | | ✓ Standard and Extended Drain | ✓ Standard and Extended Drain |
| DETROIT DIESEL | ★ DFS 93K222 | ★ DFS 93K222 | ★ DFS 93K222 | ★ DFS 93K222 | ★ DFS 93K222 | ★ DFS 93K222 | | | ★ DFS 93K222 | ★ DFS 93K222 |
| DEUTZ® | ★ DQC III-18 LA | ★ DQC III-18 LA | | ★ DQC III-18 LA | | | | | ★ DQC IV-18 LA | ★ DQC IV-18 LA |
| Ford | ★ WSS-M2C171-F1 | ★ WSS-M2C171-F1 | ★ WSS-M2C171-F1 | ★ WSS-M2C171-F1 | ★ WSS-M2C171-F1 | ★ WSS-M2C171-F1 | | | | |
| GM | ● 9985930 | ● 9985930 | ● 9985930 | ● 9985930 | | | | | | |
| JASO | ● MA2, DH-1, DH-2 | ● MA2, DH-1, DH-2 | ● MA2, DH-1, DH-2 | ● MA2, DH-1, DH-2 | ● MA2 | ● MA2, DH-1, DH-2 | ● MA2 | ● MA2 | | |
| MACK | ★ EOS-4.5 | ★ EOS-4.5 | ★ EOS-4.5 | ★ EOS-4.5 | ★ EOS-4.5 | ★ EOS-4.5 | | | ★ EOS-4.5 | ★ EOS-4.5 |
| MAN | ● 3575, 3275-1 | ● 3575, 3275-1 | | | | ● 3575 | | | ● 3677, 3775 | ● 3477, 3775 |
| Mercedes-Benz*** | ★ DTFR 15C100 | ★ DTFR 15C100 | ★ DTFR 15C100 | | | | | | ★ DTFR 15C120**<br>● DTFR 15C110, DTFR 15C100 | ★ DTFR 15C120**<br>● DTFR 15C110, DTFR 15C100 |
| mtu | ★ Type 2.1 | ★ Type 2.1 | | ● Type 2.1 | | ● Type 2.1 | | | ★ Type 3.1** | ★ Type 3.1** |
| RENAULT TRUCKS | ★ RLD-3 | ★ RLD-3 | ★ RLD-3 | ★ RLD-3 | ★ RLD-3 | ★ RLD-3 | | | ★ RLD-3 | ★ RLD-3 |
| SCANIA | | | | | | | | | ★ LDF-4 | ● LA |
| VOLVO | ★ VDS-4.5 | ★ VDS-4.5 | ★ VDS-4.5 | ★ VDS-4.5 | ★ VDS-4.5 | ★ VDS-4.5 | | | ★ VDS-4.5 | ★ VDS-4.5 |

* Use of a diesel engine oil for gasoline applications may compromise the life of the emissions device. Please refer to the owner's manual to ensure proper oil is used.
** Approval pending.
*** DTFR 15C100 is formerly known as MB 228.31. DTFR 15C110 was MB 228.51 and DTFR 15C120 was MB 228.52.

## APPLICATIONS

### Car and Light Duty Diesel Engines

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

### Gasoline and CNG Engines

Many of the DURON products exceed the latest API SN gasoline engine oil specification and are suitable for some gasoline and CNG applications where API SN or earlier specifications are required. Many are also suitable for use in wet clutch applications where JASO MA2 is recommended. Please reference the Approvals and Recommendations list on the previous page to ensure the correct product application.

### Stationary & Marine type Diesel Engines

DURON HP and SHP 15W-40's may be used in diesel-fuelled stationary and marine systems where an SAE 15W-40 diesel engine oil is specified and water separation is not required.

## TYPICAL PERFORMANCE DATA

| Property | ASTM TEST METHOD | DURON HP 15W-40 | DURON SHP 15W-40 | DURON SHP 10W-30 | DURON UHP 10W-40 | DURON UHP 5W-30 | DURON UHP 5W-40 | DURON UHP 0W-40 | DURON UHP 0W-30 | DURON UHP E8-X 5W-30 | DURON UHP E8-X 10W-40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Flash Point, COC, °C/°F | D92 | 228/442 | 226/439 | 220/428 | 229/444 | 215/418 | 235/450 | 224/435 | 220/428 | 216/421 | 235/455 |
| Kinematic Viscosity<br>cSt @ 40°C<br>cSt @ 100°C | D445 | <br>118<br>15.6 | <br>114<br>15.4 | <br>80.1<br>12.0 | <br>107<br>15.5 | <br>70.3<br>11.6 | <br>88.6<br>14.3 | <br>82<br>14.5 | <br>65.2<br>11.5 | <br>73.0<br>12.0 | <br>87.0<br>13.5 |
| Viscosity Index | D2270 | 139 | 142 | 145 | 157 | 158 | 168 | 180 | 173 | 168 | 156 |
| High Temp/High Shear Viscosity cP @ 150°C | D4683 | 4.1 | 4.1 | 3.5 | 4.1 | 3.5 | 3.8 | 3.9 | 3.4 | 3.5 | 3.8 |
| Cold Cranking Viscosity, cP @ °C/°F | D5293 | 5540 (-20/-4) | 5000 (-20/-4) | 5570 (-25/-13) | 5930 (-25/-13) | 6200 (-30/-22) | 6290 (-30/-22) | 5900 (-35/-31) | 5400 (-35/-31) | 6150 (-30/-22) | 6190 (-25/-13) |
| Pour Point, °C/°F | D5950 | -36/-33 | -36/-33 | -42/-44 | -42/-44 | -42/-44 | -45/-49 | -45/-49 | -45/-49 | -45/-49 | -33/-27 |
| Borderline Pumping Viscosity cP @ °C/°F | D4684 | 21350 (-25/-13) | 19880 (-25/-13) | 18160 (-30/-22) | 27450 (-30/-22) | 21300 (-35/-31) | 24780 (-35/-31) | 28300 (-40/-40) | 19600 (-40/-40) | 22000 (-35/-31) | 32700 (-30/-22) |
| Sulphated Ash, % wt | D874 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Base No. (BN), mg KOH/g | D2896 | 9.8 | 9.8 | 10.0 | 10.0 | 11.0 | 11.0 | 9.5 | 9.7 | 13.4 | 13.4 |

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

Learn more about us: **petrocanadalubricants.com**
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Committed to the disciplined operation of our business.

CERTIFIED
ISO 9001: 2015
ISO 14001: 2015
IATF 16949: 2016

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