



DURON* XL SYNTHETIC BLEND HEAVY DUTY ENGINE OILS

Introduction

DURON XL Synthetic Blend engine oils are premium heavy duty oils recommended for engines operating in both highway and off-highway heavy duty service applications.

DURON XL Synthetic Blend engine oils simplify operations in mixed fleets of global origin and have the superior soot dispersing capability required by the latest low emission engine designs. DURON XL Synthetic Blend engine oils are suitable for use with engines fuelled by diesel, gasoline, propane, or compressed natural gas (CNG).

DURON XL Synthetic Blend 15W-40 meets the highest diesel engine standards in North America, including API CI-4 Plus, API CI-4/SL, Cummins CES 20078, Caterpillar ECF-1, Detroit Diesel Power Guard 93K214, and Mack EO-N Premium Plus '03. DURON XL Synthetic Blend 10W-40, meets API CI-4 Plus, CI-4/SL, Mack EO-N Premium Plus '03, Cummins CES 20078, and Caterpillar ECF-1. DURON XL Synthetic Blend 0W-30, meets API CH-4/SJ, Cummins CES 20076, Volvo VDS-2, Caterpillar ECF-1, and Mack EO-M Plus.

DURON XL Synthetic Blend 15W-40 meets the toughest Mack specification, Mack EO-N Premium Plus '03. With worldwide extended drain credentials, DURON XL Synthetic Blend 15W-40 meets the highest global performance standards, including European and Asian specifications: Global DHD-1, and Volvo VDS-3, ACEA E7, E5, E3, E2, MB 228.3, and JASO DH-1.

The DURON XL Synthetic Blend 10W-40 and 0W-30 grades are formulated for superior performance in cold weather. DURON XL Synthetic Blend 10W-40 provides easier start-ups in colder temperatures than 15W-40 oils without giving up any high temperature engine operating performance. DURON XL Synthetic Blend 0W-30 permits start-ups at

temperatures as low as -45°C and has a much higher oil film strength than is required for 0W-30 multigrade engine oils.

DURON XL Synthetic Blend engine oils are specially formulated with Petro-Canada's unique patented 99.9% pure HT synthetic base oils and high performance additives. Extensive fleet trials over millions of kilometres have proven the outstanding benefits of DURON XL Synthetic Blend formulations.

Features and Benefits

- **Superior low temperature pumping for extended temperature range protection**
 - Oil flows easily on start up for wear protection
 - Resists thickening and retains new oil properties longer even at high soot loads
 - Better low temperature protection even with used oil
 - Lower fuel consumption through lower viscous drag
- **Exceptional engine wear protection**
 - Proven bore polish wear protection through Volvo, Mercedes Benz and ACEA tests (15W-40)
 - Outstanding engine ring and liner, valve train and bearing wear resistance
 - Extends time between rebuilds and increases resale value
 - Better performance through life of engine
- **Superior soot dispersion capability protects against abrasive wear and sludge formation**
 - Minimizes downtime and reduces operation and maintenance costs
 - Protects against loss of engine performance caused by excessive wear of crosshead or other engine parts
 - Reduced filter plugging and better oil flow

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.



- **Extended oil life**

- Exceeds the requirements of the latest API CI-4 Plus standard (15W-40 & 10W-40)
- Oil stays-in-grade and retains new oil properties for extended duration
- Oil pressure remains stable even at extended drain.

- **World-wide extended drain engine manufacturer credentials with 15W-40**

- Simplify lubricant handling in fleets with different engine types.

Performance Standards

DURON XL Synthetic Blend engine oils are formulated to meet the following:

SAE Grade	Technical Society	Category	Also suitable for use where recommended
15W-40	API	CI-4 Plus, CI-4, CH-4, CF/SL, SJ	CG-4, CF-4, CE, CD/SH, SG
	ACEA	E7, E5, E3, E2	A3, B3
	EMA / ACEA	Global DHD-1	JASO DH-1
10W-40	API	CI-4 Plus, CI-4, CH-4, CF/SL, SJ	CG-4, CF-4, CE, CD/SH
0W-30	API	CH-4, CG-4/SJ	CF, CF-4, CE/SL SH

Engine Service Classifications

- API CI-4 Plus and CI-4 engine service classifications are required for EGR equipped engines

Diesel Engine Manufacturers

DURON XL Synthetic Blend engine oils meet the engine warranty requirements of Caterpillar, Detroit Diesel (4-stroke), Navistar International, Allis-Chalmers, Case IH, Deere, Fiat-Allis, GMC, White, Deutz, Continental, Hino, Komatsu, Perkins, Isuzu, Volvo, Volkswagen, and others.

DURON XL Synthetic Blend engine oils also meet the requirements of the following specifications:

SAE Grade	Specifications
15W-40	Allison C-4, Caterpillar 3600, Caterpillar ECF-1, Caterpillar TO-2, Cummins CES 20078, 20077, Detroit Diesel 7SE270 (4-Stroke Cycle), Detroit Diesel 7SE273 (Series 2000/4000), Detroit Diesel Power Guard 93K214, Ford M2C171-D, John Deere 6466A, Mack EO-N Premium Plus '03, MAN 271, 3275, Mercedes Benz 229.1, 228.3, 228.1, MTL 5044 (MTU Type 1 and 2), Renault RLD, SEBU 6385, Volvo VDS-3, VDS-2, VW 501, 505
10W-40	Allison C-4, Caterpillar ECF-1, Caterpillar TO-2, Cummins CES 20078, 20076, Detroit Diesel 7SE270 (4-Stroke Cycle), Detroit Diesel 7SE273 (Series 2000/4000), Ford M2C171-D, Mack EO-M, Mack EO-M Plus, Mack EO-N Premium Plus '03, SEBU 6385, TO-2
0W-30	Allison C-4, Caterpillar ECF-1, TO-2, Cummins CES 20076, Detroit Diesel 7SE270 (4-Stroke Cycle), Ford M2C171-C, Mack EO-M, Mack EO-M Plus

Gasoline Engines

DURON XL Synthetic Blend engine oils may be used in gasoline engines requiring API SL, ACEA A3, or an earlier specification. Consult your owner's manual.

All grades may be used in natural gas fuelled automotive and stationary equipment.

Stationary & Marine type Diesel Engines

DURON XL Synthetic Blend 15W-40 may be used in diesel-fuelled stationary and marine systems where an SAE 15W-40 diesel engine oil is specified.

Car & Light Truck Diesel Engines

All grades can be used in diesel engines in smaller vehicles, including cars and light trucks where API CI-4 Plus, CI-4, CH-4, CF, ACEA B3, or earlier specifications are required. Consult your owner's manual.

Transmission and Hydraulics

DURON XL Synthetic Blend engine oils serve as an excellent transmission and hydraulic fluid where engine oil is specified.

DURON XL Synthetic Blend engine oils may be used in:

- Allison transmissions and torque converters where a C-4 fluid is specified
- Caterpillar powershift transmissions, semi-automatic transmissions and torque converters where a TO-2 fluid is specified

- Clark powershift transmissions
- Wet clutch transmissions, including motorcycles & all terrain vehicles (meet JASO MA friction requirements)

DURON XL Synthetic Blend 15W-40 may be used in:

- ZF transmission specifying TE-ML.07

Typical Performance Data

PROPERTY	ASTM TEST METHOD	DURON XL SYNTHETIC BLEND		
		15W-40	10W-40	0W-30
Flash Point, °C/ °F	D92	229/444	231/448	231/448
Kinematic Viscosity	D445			
cSt @ 40°C		109.6	106.9	68.7
cSt @ 100°C		15.3	15.7	12.1
SUS @ 100°F		563	547	348
SUS @ 210°F		80.1	81.8	67.4
Viscosity Index	D2270	146	156	176
High Temp/High Shear Viscosity cP @ 150°C/302°F	D4683	4.5	4.3	3.5
Cold Cranking Viscosity	D5293			
cP @ -15°C/5°F		2,633	-	-
cP @ -20°C/ -4°F		4,677	3,387	-
cP @ -25°C/ -13°F			6,385	
cP @ -30°C/ -22°F		-	-	2,911
cP @ -35°C/ -31°F		-	-	5,249
Pour Point, °C/ °F	D97	-42/-44	-48/-54	<-51/<-60
Borderline Pumping Viscosity, cP @ °C	D4684	15,195 @ -25	23,210 @ -30	18,113 @ -40
Sulphated Ash, % Wt	D874	1.37	1.37	1.18
Total Base No.	D2896	10.7	10.3	9.1

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

Applications

DURON XL Synthetic Blend 15W-40

The natural choice when the highest possible 15W-40 high temperature performance is required. Unsurpassed global credentials protect your OEM warranty for North American, European and Asian equipment. Product of choice for most severe service, drain extension or round-the-clock operation.

DURON XL Synthetic Blend 10W-40

Where extended ambient temperature range is needed without any sacrifice in 15W-40 high temperature performance. Particularly suited for situations where equipment has to be restarted, including fleets with a mix of Class 8 and smaller vehicles. Potential for fuel economy through lower viscous drag and avoidance of idling.

DURON XL Synthetic Blend 0W-30

Where fluidity is required down to sub-arctic conditions. Fully engine tested and approved for confidence of wear protection and maximum engine life.

Health and Safety

Petro-Canada Duron* XL Synthetic Blend has no adverse affect on health provided it is used as directed. To obtain Material Safety Data Sheets (MSDS), contact one of our TechData Info Lines.

TechData Info Lines

If you would like to know more about Petro-Canada Duron* XL, or any other product in our complete line of quality lubricants, please contact us at:

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