# **VOLVO PENTA ENGINE OIL** VDS-4.5 15W-40

## Description

Volvo Penta Engine Oil VDS-4.5 is a uniquely formulated heavy-duty diesel engine oil incorporating proprietary additive technology. It is designed to provide optimum performance in Volvo Penta engines in terms of function, performance and durability.

Volvo Penta Engine Oil VDS-4.5 meets or exceeds the demands of API CK-4 and ACEA E9.

Volvo Penta Engine Oil VDS-4.5 is fully backwards compatible and can be used in engines where Volvo Penta Engine Oil VDS-2, VDS-3 or VDS-4 oils are currently recommended. Volvo Penta Engine Oil VDS-4.5 has been specifically designed for modern high performance, low emission engines with Exhaust Gas Recirculation (EGR), Selective Catalytic Reduction (SCR) and/or Diesel Particulate Filter (DPF) after-treatment systems.

### Application

Volvo Penta Engine Oil VDS-4.5 15W-40 is recommended for use in modern diesel engines under all operating conditions and in all environments contributing additional benefits in comparison to market general oils. It is also recommended for certain gasoline engines, please refer to the operators manual.

Typical Properties	Volvo Penta Engine Oil VDS-4.5 15W-40
SAE Grade	15W-40
Viscosity, cSt at 40°C, D 445	109
Viscosity, cSt at 100°C, D 445	14.1
CCS Viscosity, cP at -20°C, D 5293	6600
MRV Viscosity, cP at -25°C, D 4684	17500
HTHS Viscosity, cP at 150°C, D 4683	4.1
Viscosity Index, D 2270	130
Sulphated Ash, % wt, D 874	0.9
Total Base Number, mg KOH/g, D 2896	8.7
Pour Point, °C, D 97	-34
Flash Point, °C, D 92	226
Density at 15 C , kg/l, D 4052	0.877
Shelf life (In normal warehouse conditions)	5 Years

Every effort has been made to ensure that facts and figures are correct at the time of publication. However, Volvo Penta reserves the right to make changes without prior notice at any time.

#### Performance

- Volvo VDS-4.5 / VDS-4 / VDS-3
- Approved against Volvo standard 417-0003
- Caterpillar ECF-3
- Mack EOS-4.5, EO-O Premium Plus
- Detroit DFS 93K222 / DFS 93K218
- Cummins CES 20086 / CES 20081
- Mercedes Benz MB 228.31
- API CK-4 / API CJ-4 / CI-4 Plus / CI-4
- ACEA E9 / E7

#### Benefits

Volvo Penta Engine Oil VDS-4.5 represents a major advancement in performance and durability over VDS-4 and API CJ-4 engine oils, providing functional improvements including.

- 50% improved oxidation resistance.
- 20% reduced wear (in bench tests).
- Enhanced protection for engines in harsher environments
- Full after-treatment functionality with tougher emission restrictions
- 80% better high temperature viscosity

control (in bench tests).

Provides improved protection against oil thickening, high temperature deposits, sludge build-up, oil degradation and corrosion.



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