

Lubricant satisfying the strictest standards in force intended for use in applications such as Public Works, Transport and Agriculture.

PRO 450X 10W-40 has been developed for latest generation engines satisfying the Euro VI, Stage IV or Tier 4 Final standards. Compatible with previous engines.

PRO 450X 10W-40 is intended for heavy-duty diesel engines, to reduce greenhouse gas emissions and improve fuel economy

PERFORMANCES

Standards : ACEA E9-16/E7-16 / E6-16
API CK-4 / CJ-4 / CI-4 / CH-4
API SN/SM

Specifications :
 DEUTZ DQC IV-10 LA
 MAN M 3477 /3575
MERCEDES MB-Approval 228.51*
MACK EO-S- 4.5*
RENAULT VI RLD-3* / RLD-2 / RLD
 SCANIA LOW ASH
VOLVO VDS 4.5* / VDS-4 / VDS-3 / VDS-2
 Caterpillar ECF -3, 2, 1-a
 CUMMINS CES 20086 / 20081
 DAF Euro VI motorizations
 JASO DH-2
 MTU Type 3.1
 ZF TE-ML 03A

* **Approved quality.** Use recommended under manufacturers' warranties.

ORGANISATIONS & MANUFACTURERS - Scope of application -

ACEA E9-16 : For Diesel engines meeting Euro I/II/III/IV/V/VI engines fitted with or without SCR NOx reduction systems.

API CK-4 : For 2017 model year on-highway and Tier 4 Off-road exhaust emission standards as well as for previous model year diesel engines. with or without exhaust after treatment. Backwards compatible with API CJ-4 CI-4, CI-4 plus, CH-4

DEUTZ DQC IV-10 LA : Low-ash ultra-high performance diesel engine oil for engines with highest level of output with closed crankcase ventilation and/or with the highest thermal loads.

Technical data sheet



MAN M 3477: For Euro IV/V engines requiring "Low SAPS" oil / Extended oil change intervals (ACEA E6) of 100,000 km max.

MAN M 3575: ACEA E9 + API CJ-4 for engines outside Europe.

MB 228.51 : For engines fitted with DPF, extended oil change intervals (ACEA E6) for maxi 120 000 kms.

RENAULT RLD-3 : ACEA E9-08 + Volvo VDS-4.

SCANIA Low Ash: For Euro IV/V engines equipped with DPF.

VOLVO VDS-4 .5 : Volvo engine oil approval, based on the API: CK-4 specification. Specification is intended for heavy-duty diesel engines, to reduce greenhouse gas emissions and improve fuel economy. The Volvo VDS-4.5 specification is backwards compatible with older Volvo specifications (VDS-4, VDS-3, etc.).

CATERPILLAR ECF-3, 2, 1-a : to satisfy the requirements of Off road vehicles, in Caterpillar engines produced in 2007 fitted with DPF**/ oil change intervals 500h.

CUMMINS CES 20086 : Special engine oil for Cummins heavy duty diesel engines with or without SCR and EGR. To use this oil, it's mandatory to use Ultra-Low Sulfur Diesel (ULSD), too.

CUMMINS CES 20081 : for engine oil for heavy duty and midrange engines with exhaust aftertreatment.

MTU type 3.1 : A multigrade oil containing low-ash additives..

USES

PRO 450X is suitable for engines without particulate filters or catalytic converters. Suitable for Diesel and Petrol fuels, biofuels and other fuels approved by manufacturers.

TRANSPORT :

PRO 450X 10W-40 is suitable for Euro V/ Euro VI EGR engines with or without particulate filters, and also for Euro V and Euro VI engines with SCR (Selective Catalytic Reduction) exhaust gas post-treatment systems using Ad-Blue.

Technical data sheet



PUBLIC WORKS EQUIPMENT:

- Applications for **Diesel engines** with EGR, with or without particulate filters, in public works equipment subject to severe conditions and especially for reduced emissions engines equipping recent models of public works machines: Stage IV or Tier 4 Final engines
- Applications in **hydraulic circuits** when engine oil is recommended (Caterpillar, Liebherr, Komatsu, Hitachi,)
- **Transmission** applications when engine oil is recommended (Caterpillar, Liebherr, Komatsu, ...)

AGRICULTURAL MACHINES:

- PRO 450X 10W40-is suitable for Tier 4 Final and Stage IV engines with DOC (Diesel Oxidation Catalyst) required to satisfy the requirements of 2011 emissions standards).
- PRO 450X 10W-40 enables oil change intervals to be extended in accordance with manufacturers' recommendations (up to 500 hours of operation)

Technical data sheet

Caractéristiques	Normes	Unités	10W40
Masse volumique à 15°C	NFT 60-101	Kg/m ³	868
Viscosité à 40°C	ASTM D445	mm ² /s	102
Viscosité à 100°C	ASTM D445	mm ² /s	14.9
Indice de viscosité	NF T 60-136	-	152
HTHS		cP	4.12
CCS @ -25°C	ASTM D5293	mPa.s	< 7000
TBN	ASTM D2896	mg KOH/g	11.1
Teneur en cendres	ASTM D4951	masse %	Max 1

Characteristics are given for information only and correspond with our manufacturing standards. IGOL reserves the right to modify them to provide its customers with the benefits of technical progress. Before using this product read the instructions for use and the environmental impacts mentioned in the technical and safety data sheets. The information given above is based on the current level of knowledge relative to the product concerned. The product user should take all useful precautions relative to its use. IGOL can in no circumstances be held responsible for damage resulting from incorrect use.

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