DIESEL ENGINE OILS: PASSENGER CARS/COMMERCIAL VEHICLES

MAK DZL ZENITH

SAE Grade: 10W-30

This is premium quality semi-synthetic diesel engine oil designed exclusively for diesel passenger cars, multi utility vehicles (MUVs) and sports utility vehicles (SUVs).

Performance Level: Exceeds API CI-4 specifications

Application: Recommended for use in latest diesel passenger cars, multi utility vehicles (MUVs) and sports utility vehicles (SUVs).

It is proven for 2% fuel economy under test condition.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK DZL Zenith	11.10	137	230	-27

MAK MULTIGRADE

SAE Grade: 20W-40

Superior quality multigrade oil, blended using superior quality high viscosity index base oil, and contains well balanced group of additives, to provide high detergency, and anti-oxidation characteristics.

Benefits:

- Better resistance against wear of moving engine parts at all operating conditions
- Excellent thermal and oxidation stability and less formation of oxidation related deposits
- Protects engine components against rust and corrosion due to built-in alkaline reserves
- Ensures smooth running of engine in all climatic conditions

Performance Level: API CF

Application: Recommended for use in all diesel engine vehicles operating under moderate service conditions and small stationary diesel engines. Also recommended for earlier models of petrol cars.

Grade Name	K. V. @100°C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK MULTIGRADE 20W-40	14.1	109	236	-21

MAK GOLD

SAE Grade: 30 & 40

These are heavy duty diesel engine oils formulated from superior quality High Viscosity Index base oil and carefully selected detergent-dispersant inhibitors, anti-wear additives and special oil thickening control agent.

Benefits:

- Cleaner engine due to reduction of engine deposits
- Better soot handling capacity
- Longer engine and oil life

Performance Level: API CF; Mack T-7/T-8A Test; IS 13656:2002 Type EDL3; (MIL- L-2104 C)

Application:

- They are recommended for high speed Naturally Aspirated / Turbo / Supercharged diesel engines operating at low speed and high torque conditions prevalent in prolonged city stop & go driving conditions and also in hilly regions
- Recommended for use in heavy duty commercial vehicles, light commercial vehicles and multi utility vehicles

This oil was evaluated in "Double Decker" buses of M/s. BEST, Mumbai, and oil drain interval of 22,000 kms was established. Also demonstrated the Long Drain capability in APSRTC buses.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK GOLD 30	11.4	96	230	-6
MAK GOLD 40	14.4	100	240	-6

MAK GOLD PLUS

SAE Grade: 20W-40

Heavy duty diesel engine oil specially formulated with superior quality base oil and carefully selected additives. This oil is recommended for all turbo-charged and naturally aspirated engines fitted in trucks, tractors, buses, goods carriers (LCVs), off high equipments, 3-wheelers and gensets.

Benefits:

- Provides excellent protection against piston deposit and keeps engine parts clean
- Prevents oil sludging at elevated temperatures by virtue of excellent oxidation stability
- Ensures protective film on engine parts to reduce wear & tear even under stressful situation
- The viscometry enables less variation in viscosity at all temperatures

Performance Level: Meets API CF-4 specifications

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK GOLD PLUS	14.5	120	232	-21

MAK DIAMOND

SAE Grade: 15W-40

Premium quality multigrade diesel engine oil formulated with superior quality base oil and high shear stable VI Improver. The unique detergent-dispersant inhibitor used in this oil helps in keeping the engine clean, preventing premature oil thickening besides improving the TBN retention power thereby offering excellent protection against corrosive wear. This oil is suitable for use in all seasons and helps in reducing oil consumption.

This multigrade oil provides excellent lubrication for diesel engines in road transport, mining earthmoving industry, construction industry and power units for constant high speed or stop-start service under severe conditions.
This oil has been specially formulated to address the most arduous operating conditions of Indirect (IDI) engines.

Benefits:

- High powered due to its outstanding combination of base oil & additive
- Enhanced engine life due to its improved stability of lubricating film which bonding to metal surfaces to make engine parts more resistance to wear
- Less maintenance and more trips due to its PREMIUM detergent and dispersant additive technology leading to a cleaner and cooler engine for all the seasons
- Long oil service life due to its excellent resistance to heat leading to lowering the tendency of oil thickening
- Field trials, conducted on Tata Motors and Ashok Leyland vehicles, established a drain period of 24,000 kms

Performance Level: API CF-4 / SJ; IS: 13656; 2002 Type EDL5 & EPL2; MB228.1; MIL-L-2104E

Application: Recommended for all types of diesel passenger cars, commercial vehicles and earth moving machinery. It is specially recommended for use in vehicles meeting EURO I & II norms.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK DIAMOND 15W-40	14.4	137	226	-24

MAK-CG4

SAE Grade: 15W-40

An advanced heavy duty diesel engine oil specially developed to meet low exhaust emission standards. The unique dispersants, used in this oil, provide superior soot handling capacity. Further, this oil has an exceptional ability to maintain engine cleanliness and protect engine parts, thereby extending engine life and reducing maintenance costs. This oil is suitable for use in all seasons and helps in reducing oil consumption.

Performance Level: API CG-4/SJ; IS 13656; 2002 Type EDL6; Volvo VDS; MTU Type 1; MB 228.1

Application: Recommended for use in heavy duty diesel engines using low sulphur (0.05% max) diesel, for on-highway and off-highway applications: demanding an advanced grade. However, this oil can also be used in vehicles requiring API CF-4 type of oil.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK-CG4 15W40	14.3	139	228	-27

MAK DIAMOND PLUS

SAE Grade: 15W-40

MAK DIAMOND PLUS is Premium diesel engine oil formulated to meet the stringent lubrication requirements of low emissions BS-I, BS-II, BS-III engines fitted with turbo charged / naturally aspirated diesel engines.

Performance Level:

- **Exceeds API CH-4**
- **MB 228.3**

Application: Recommended for use in BS-I, BS-II & BS-III heavy duty trucks, buses, LCVs of TATA Motors, ASHOK LEYLAND, MAHINDRA, VOLVO, SWARAJ MAZDA, EICHER etc.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK DIAMOND PLUS 15W-40	14.5	135	232	-27

MAK-CH4

SAE Grade: 15W-40

This latest generation heavy duty diesel engine oil is formulated for lubrication of modern diesel engines meeting the latest emission norms (Euro-III) and operating under severe conditions to meet stringent emission norms. The latest generation dispersants used in this oil helps in handling higher amount of soot and thereby controlling the viscosity increase. It is fortified with superior quality high viscosity index improvers and unique anti-wear additives to protect heavily loaded engine parts such as valve train. The specially selected inhibitors ensure excellent protection against oxidation, rust and corrosion. Further, this oil exhibits superior anti-foam characteristics.

Performance Level: API CH-4 /SJ; MB 228.3

Application: Recommended for use in latest generation diesel engine vehicles to meet Euro-II and Euro-III emission norms. However, this oil can also be used in vehicles requiring API CG-4 or CF-4 oil. This oil has been licensed by American Petroleum Institute (API) to market under their 'DONUT' symbol.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK CH4 15W-40	14.2	139	236	-24

MAK-CI4

SAE Grade: 15W-40

This top-of-the-line diesel engine oil is designed to meet the latest global specifications and exceeds the lubrication requirements of the latest ultra low emission diesel engines. It is specially effective at sustaining engine durability where Exhaust Gas Recirculation is used and protecting after treatment exhaust devices. This oil is fortified with state-of-the-art performance additives to control the viscosity increase, handle higher soot level due to EGR and protects engine parts against the corrosive action of combustion gases.

This oil is suitable for use in all seasons and helps in reducing oil consumption.

Performance Level: API CI-4, VOLVO VDS-3

Application: Recommended for engines fitted with Exhaust Gas Recirculation (EGR) technology to meet Euro-II & Euro-III emission norms.

Grade Name	K. V. @100°C, CSt	VI	Flash Point COC, °C	Pour Point, °C
MAK-CI4 15W-40	14.2	137	236	-24

MAK PLATINUM

SAE Grade: 15W-40

This top-of-the-line diesel engine oil is designed to meet the latest global specifications and exceeds the lubrication requirements of the latest ultra low emission diesel engines. It is specially effective at sustaining engine durability where Exhaust Gas Recirculation is used and protecting after treatment exhaust devices. This oil is fortified with state-of-the-art performance additives to control the viscosity increase, handle higher soot level due to EGR and protects engine parts against the corrosive action of combustion gases. This oil is suitable for use in all seasons and helps in reducing oil consumption.

Performance Level: API CI-4, VOLVO VDS-3

Application: Recommended for engines fitted with Exhaust Gas Recirculation (EGR) technology to meet Euro-II & Euro-III emission norms. Expected drain period of 60,000 kms in non EGR engines under ideal operating conditions & appropriate filtration system.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK PLATINUM CI 415W-40	14.2	137	236	-24

MAK PLATINUM PLUS

SAE Grade: 15W-40

Premium diesel engine oil designed to meet the stringent requirements of the latest ultra low emission diesel engines where Exhaust Gas Recirculation and protecting after treatment exhaust devices are used.

Performance Level:

- **Meets API CI-4 Plus specifications**
- **Meets VOLVO VDS 3**
- **Global DHD 1**
- **Cummins 20078**
- **ACEA E 7**
- **MB 228.3**

Application: Recommended for use in modern high performance diesel engines in light & heavy duty trucks, buses, SUVs & passenger cars, off-highway and agricultural equipments fitted with Exhaust Gas Recirculation (EGR) technology to meet Euro II & Euro III emission norms.

The oil has potential to go up to 100000 kms in BS-II/BS-III engines fitted with additional centrifugal oil cleaner. Please be guided by OE recommendations for oil drain period.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK Platinum Plus	14.4	130	232	-24

MAK-CI4 Plus

SAE Grade: 15W-40

This long life diesel engine oil is designed to meet the latest global specifications and exceeds the lubrication requirements of the latest ultra low emission diesel engines. It is specially effective at sustaining engine durability where Exhaust Gas Recirculation is used and protecting after treatment exhaust devices. This oil is fortified with state-of-the-art performance additives to control the viscosity increase, handle higher soot level due to EGR and protects engine parts against the corrosive action of combustion gases. This oil is suitable for use in all seasons and helps in reducing oil consumption.

Performance Level: Meets API CI-4 Plus specifications; VOLVO VDS-3; Global DHD-1; Cummins 20078; ACEA E 7

Application: Recommended for engines fitted with Exhaust Gas Recirculation (EGR) technology to meet Euro-II & Euro-III emission norms.

This oil has been evaluated in one of the leading transport companies and oil drain period of 1,00,000 kms has been established. This has been achieved due to healthy maintenance practices and usage of externally fitted centrifugal oil filter.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK CI-4 Plus 15W-40	14.4	135	236	-24

MAK AUTO XL

SAE Grade: 15W-40

A premium Diesel Engine Oil for lubrication of 4-stroke auto rickshaws running on diesel. Formulated using severely hydro-processed base oils and appropriate additive chemistry.

Benefits:

- Keeps engine components clean
- Provides excellent protection from wear, corrosion and deposits
- Enhanced oxidation stability ensures reduced oil thickening and extends engine & oil life
- Being Multigrade oils, these are suitable for use in all seasons

Performance Level: API CF-4

Application: Suitable for BAJAJ, PIAGGIO & MAHINDRA 4-stroke auto rickshaws and small cargo carriers running on diesel under normal operating conditions.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK AUTO XL 15W-40	14.3	135	228	-24

MAK BOAT XP

SAE Grade: 15W-40

High performance diesel engine oil, formulated using superior quality base oil and unique additive technology to provide excellent protection under all operating conditions, especially under marine environment, thereby reducing maintenance.

Benefits:

- Ensures cleanliness of engine parts and outstanding oxidation stability by reducing harmful deposits and sludge
- Provides there by ensuring cleaner engine and extended oil life
- Good wear protection
- Minimizes engine deposits due to excellent sludge and varnish control
- Being multigrade oils, these are suitable for use in all seasons

Performance Level: API CH-4; MB 228.3

Application:

- Recommended for naturally aspirated or turbo-charged diesel engines
- Recommended for models of Ashok Leyland - 411 & 412 and other OEMs powering all fishing boats and trawlers

Grade Name	K. V. @100°C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK BOAT XP 15W-40	14.2	135	236	-24

MAK CHHAKADA XP

SAE Grade: 20W-40

This is superior quality multigrade 4-stroke diesel engine oil, specially developed for heavy duty chhakadas, keeping in view the severe conditions of heavy load, high temperature, dust & dirt in which they operate. This oil is blended using top-quality base oils and additives.

Benefits:

- Better resistance against wear of moving engine parts at all operating conditions
- Excellent thermal and oxidation stability and less formation of oxidation related deposits
- Protects engine components against rust and corrosion due to built-in alkaline reserves
- Provides better pulling power even under heavy load operating conditions
- Potential to increase oil drain period with minimum oil top-ups
- Ensures smooth running of engine in all climatic & operating conditions

Performance Level: API CF; IS 13656:2002 Type EDL2 & EPL2

Application: Recommended for use in all Heavy Duty Chhakadas / Multi-utility vehicles fitted with diesel engines working under all operating conditions.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK CHHAKADA XP 20W-40	13.95	127	236	-21

MAK AUTO GREEN

MAK AUTO GREEN is specifically developed engine oil for 2-stroke 3-wheelers running on CNG or LPG. It is a new generation 2-stroke engine oil formulated with ultra pure severely hydrocracked base oils and highly advanced additive technology to help to minimizing port blockage, combustion chamber deposits and also spark plug deposits. This oil provides excellent lubrication under all working conditions, thereby leading to longer engine life and helps to reduce maintenance cost.

Performance Level: Proprietary grade

Application:
MAK AUTO GREEN is recommended for use in 2-stroke auto rickshaws running on CNG/ LPG.

Grade Name	K. V. @100°C, cSt	Pour Point, °C	Appearance
MAK AUTO GREEN	8.62	-15	Clear & Bright

MAK GE ULTRA 15W-40

SAE Grade: 15W-40

MAK GE ULTRA 15W-40 is a premium quality gas engine oil specially formulated for passenger cars / taxis running on CNG/LPG/dual fuel. It provides excellent protection against oxidation and nitration thereby increasing engine & oil life. Its premium additive technology inhibits sludge formation in the oil and keeps engine clean.

Performance Level: API SJ/CF

Application: Recommended for cars/taxis running on CNG/LPG/dual fuels

Grade Name	K. V. @100 ° C, cSt	VI	Flash Point COC,⁰ C	Pour Point,⁰ C
MAK GE ULTRA 15W-40	15	130	232	-24

MAK GE

SAE Grade: 20W-50

Superior quality gas engine oil, specially developed for vehicles operating on Compressed Natural Gas (CNG), LPG and dual fuel, extends oil life due to excellent oxidation and nitration. Optimized ash content prolongs the life of valves and spark plugs. Keeps piston and engine clean thus ensuring smooth engine operation. Compatible with catalytic exhaust system fitted in the vehicle.

Performance Level: API SF/CD

Application: Recommended for use in buses, taxis, cars, auto rickshaws (4-stroke) running on Compressed Natural Gas (CNG), LPG and Dual Fuel.

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C
MAK GE 20W-50	18.5	120	242	-21

SAE Grade: 15W-40 & 20W-50

It is premium quality, low ash heavy duty Gas Engine Oil suitable for highly rated spark ignition 4-stroke mobile engines requiring low ash level. It is a blend of specially selected high viscosity index base oils and carefully balanced performance additive consisting of ash-containing and ash-less detergents, dispersants, anti-oxidation, anti-wear, anti-corrosion and anti-foaming agents.

Performance Level: API CF

Application:

- Specially designed for use in Mobile Gas Engines having slider follower. Also suitable for use in Mobile Gas Engines having roller followers
- MAK GEM 20W-50 has been approved by M/s Ashok Leyland for buses and commercial vehicles operating on CNG
- MAK GEM 15W-40 has been approved for use in Cummins B & C series engine

Some of the credentials of additive technology used in this oil are as follows:

- Meets specifications for engines with slider followers
- Meets the ash and TBN requirements of major OEMs

Grade Name	K. V. @100 °C, cSt	VI	Flash Point COC, °C	Pour Point, °C	Sulphated Ash, %wt.
MAK GEM 15W-40	14.5	137	238	-24	0.54
MAK GEM 20W-50	19.3	120	240	-21	0.54