

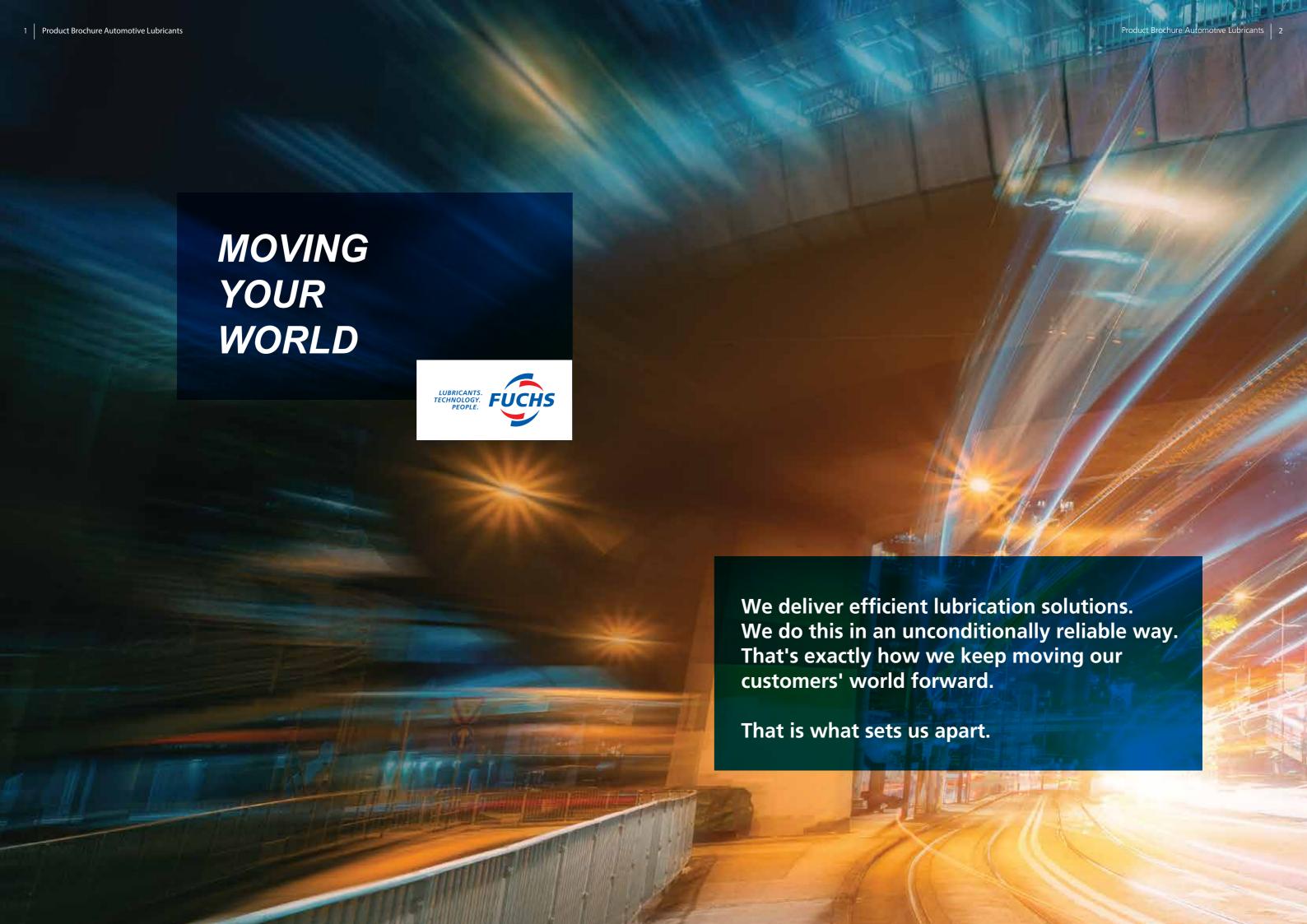


Product Brochure **Automotive Lubricants**

MOVING YOUR WORLD







1931



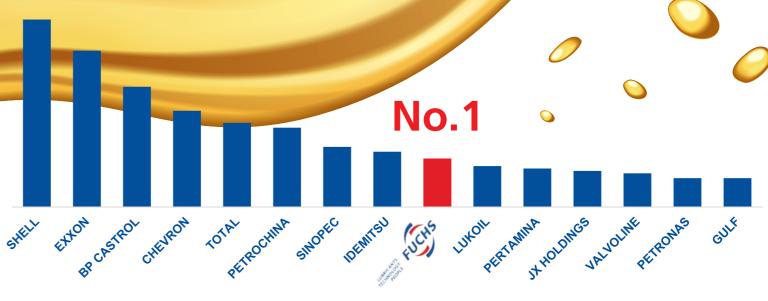
Rudolf Fuchs Company's Founder

Dr. Manfred Fuchs Corporate Management since 1960 **Stefan Fuchs Corporate Management since 2004**

FUCHS

Largest independent lubricant producer in the world.

roduct Brochure Automotive Lubricants 4







Facts and figures

Company: FUCHS PETROLUB SE Headquarters: Mannheim, Germany

Product range: A full range of more than 10,000 products Certifications: IATF 16949, ISO 14001, ISO 45001, ISO 50001 References: One of the leading lubricants OEM for the international

automotive industry

FUCHS is a global Group with German roots that develops, produces and distributes lubricants and related specialties. The FUCHS product program comprises more than 10,000 products and related services in six key categories:

- 1. Automotive Lubricants
- 2. Industrial Lubricants
- 3. Lubricating Greases
- 4. Metal Processing Lubricants
- 5. Special Application Lubricants
- 6. Services

We have more than 100,000 customers, including companies from the following fields: automotive suppliers, OEM, mining and exploration, metalworking, agriculture and forestry, aerospace, power generation, mechanical engineering, construction and transport, as well as the steel, metal and cement industries, yet also companies in the food industry, the glass production sector and the casting and forging industry - and many others.

In close contact with its customers, FUCHS develops holistic, innovative and custom-made solutions for the most diverse applications. As a lubricant manufacturer, FUCHS stands for performance and sustainability, for safety and reliability, for efficiency and cost savings.

FUCHS stands for a promise: technology that pays back.



35 Production location

57 Operating companies

FUCHS Lubricants

Stand for performance and sustainability, for safety and reliability, for efficiency and cost savings.

They represent a promise: technology that pays back.



compatibility efficient operations



biodegradable protecting endangered habitats



CO₂ reductions – optimizing our customer's carbon balance



Food grade enables industrial food processing



Less wear reliable operations



Fuel savings – saving precious resources and lowering emissions



Corrosion protection enhanced machine life



maintenance intervals reduced downtimes

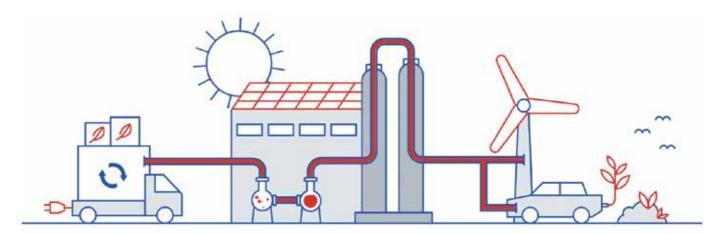


High thermal resistance – enhanced lubricant use, cost reduction



Reduced oil consumption resource efficiency

CO₂-neutrality* strategy



We support our suppliers and engage in sustainable purchasing.

We share the results of our research and support our suppliers in developing and using sustainable and carbon-neutral* precursors.

Our production: Responsible and CO,-neutral*.

We focus on resource conservation and energy savings within our production operations.

We compensate for unavoidable CO₂ emissions with selected, certified climate protection projects.

What our customers contribute: Less friction, reduced energy consumption.

The use of our products makes a strong contribution toward helping the environment. Our environmental performance analyses show: Thanks to factors including friction reduction, the CO₂ savings are significantly greater than with conventional products.

LUBRICANTS FROM CO₂-NEUTRAL* PRODUCTION

As of January 2020, FUCHS is a CO₃-neutral* company globally and its customers receive lubricants from CO₃neutral* production worldwide.

FUCHS' CO₃-neutrality* strategy is embedded in its sustainability strategy, which was launched in 2010. In order to implement CO₂-neutrality*, FUCHS offsets its CO₂ emissions, which have not yet been avoided so far, through carbon-compensation payments by investing in high-quality climate protection projects aimed primarily at promoting renewable energies.

Since 2021, the calculation of the above-mentioned CO, emissions has included not only the pure production companies, but also 100% of all sales and administration locations, as well as all joint ventures.

In the medium term, FUCHS intends to gradually reduce its carbon compensation payments and increase its share of renewable energy supplies, while continuing to invest in improving the energy efficiency of its locations.

In the long term, the company also aims to sell CO₂-neutral* products to its customers, which requires that FUCHS will in the future be supplied with CO₂-neutral* raw materials by its suppliers.



* Partly also based on compensation

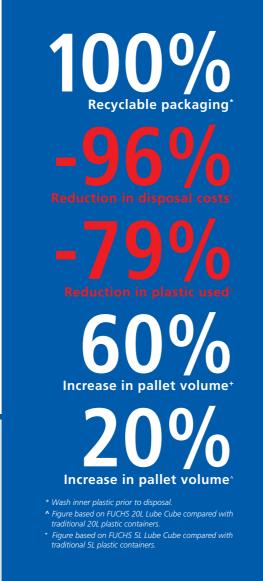


- **⊀** Save money
- **✓** Save space
- **✓** Reduce plastic pollution



Lube Cube

A single use, 100% recyclable packaging system, developed over the past 10 years with anti-glug and easy-pour technology. Currently one of the most convenient, cost effective and sustainable forms of lubrication packaging on the market.



FUCHS Lube Cube Eco-alternative to traditional plastic packaging

What is the FUCHS Lube Cube?

Lube Cube is our packaging innovation concept aimed to both tackle the growing environmental concerns reported globally and also to aid the dispensing of our products.

Constructed from a strong, durable, splash-proof cardboard outer containing a product filled plastic inner, the Lube Cube is 100% recyclable and fitted with built-in handles for easy operation. Smaller Lube Cubes feature integral spouts whilst larger 20L packs are fitted with a built-in tap for easy pouring with no air ingress.

Products & pack sizes available in Lube Cube.

Our Lube Cubes are available in 4L, 5L and 20L capacities. For further information on what products are currently available in a Lube Cube please visit:

www.fuchs.com/uk/en/products/lubecube

Environmental advantage

Packaging is a major contributor to environmental concerns; efficient resource use and waste minimisation are now a key focus for our customers.

The Lube Cube meets the ambition for a more sustainable and environmentally friendly choice of packaging. Our goal is to enable our customers to increase their recycling rate and limit the amount of materials sent to landfill.

Lube Cube goes to the next level, in comparison to other lubricant packaging alternatives, by reducing energy consumption, generating less CO2 emissions and using less overall material, resulting in less waste.

- Answers the increasing global concerns for plastic alternatives
- 100%* Recyclable splash proof packaging
- Easy to use with anti-glug pour for zero waste and spills
- Reduced disposal & shipping costs with maximised storage efficiency

Maximising your storage efficiency - the Lube Cube stacks easily which enables more product to fit onto a standard pallet.



Increased storage efficiency

On a standard pallet: Traditional plastic containers: x42 20L or x120 5L Lube Cubes: x48 20L or x192 5L

5L Plastic 5L Lube Cube 120 **Per Pallet Per Pallet**

Receive:

20% More 20 litres per pallet

60% More

5 litres per pallet

*wash inner plastic prior to disposal

JOHN DEERE SUPPLIER OF THE YEAR

EXCELLENT JOB

Our successful development work with many well-known brands has earned us numerous OEM-Awards un recent years.

For us, this is the greatest appreciation and recognition of our work.



VOLKSWAGEN

GLOBAL GROUP AWARD

DAIMLER

SUPPLIER AWARD

RANK 1

Largest independent lubricant producer in the world

Full Range of Lubricants and Specialties of over

10,000 PRODUCTS

3 GENERATIONS

of Family-owned Business

> 60

Companies Worldwide

> 6,000

Employees Worldwide

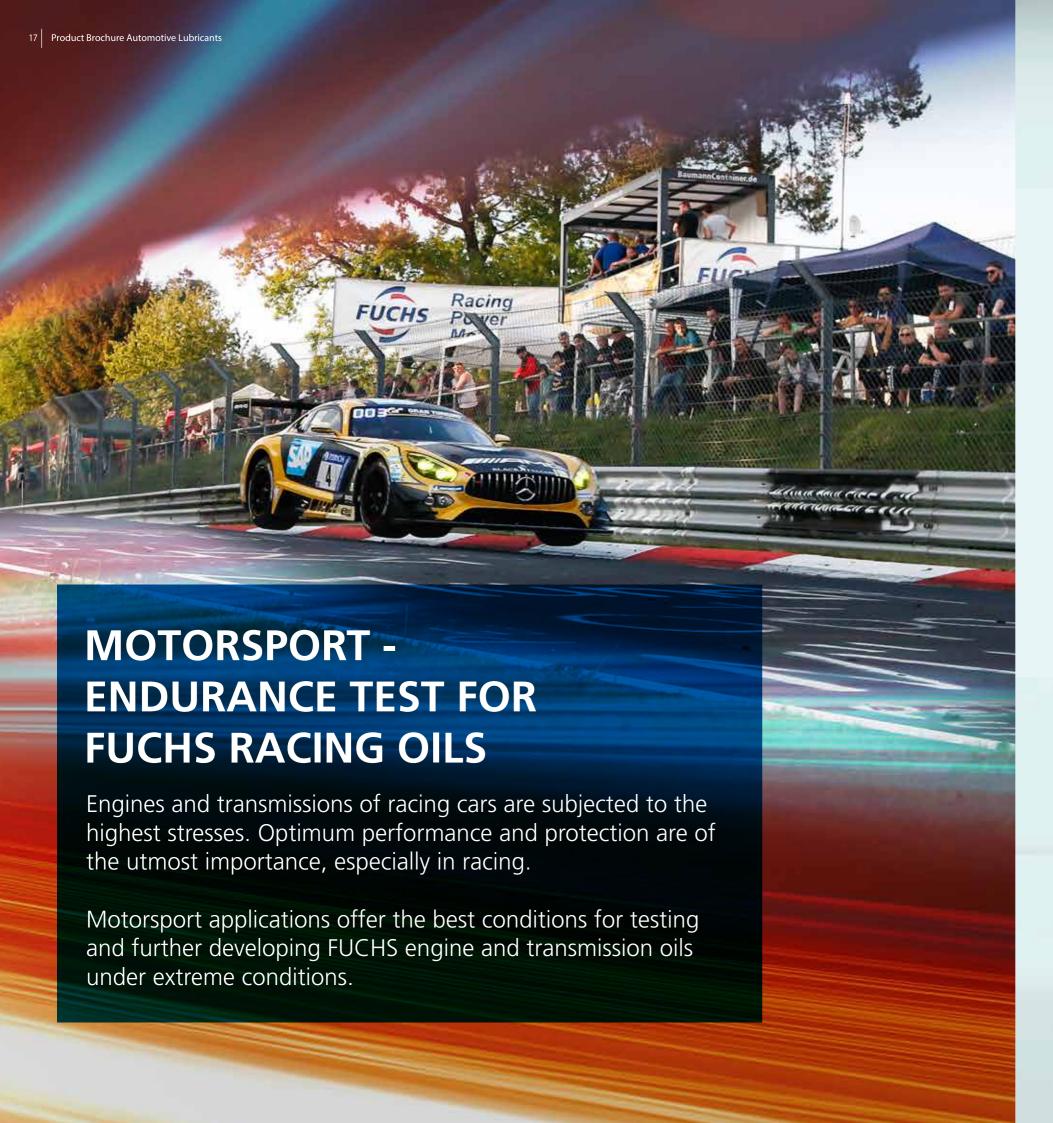
10%

Ratio of FUCHS Employees Working in Research & Development. (Average in the Industry = 2%)

3 bn €

Revenue



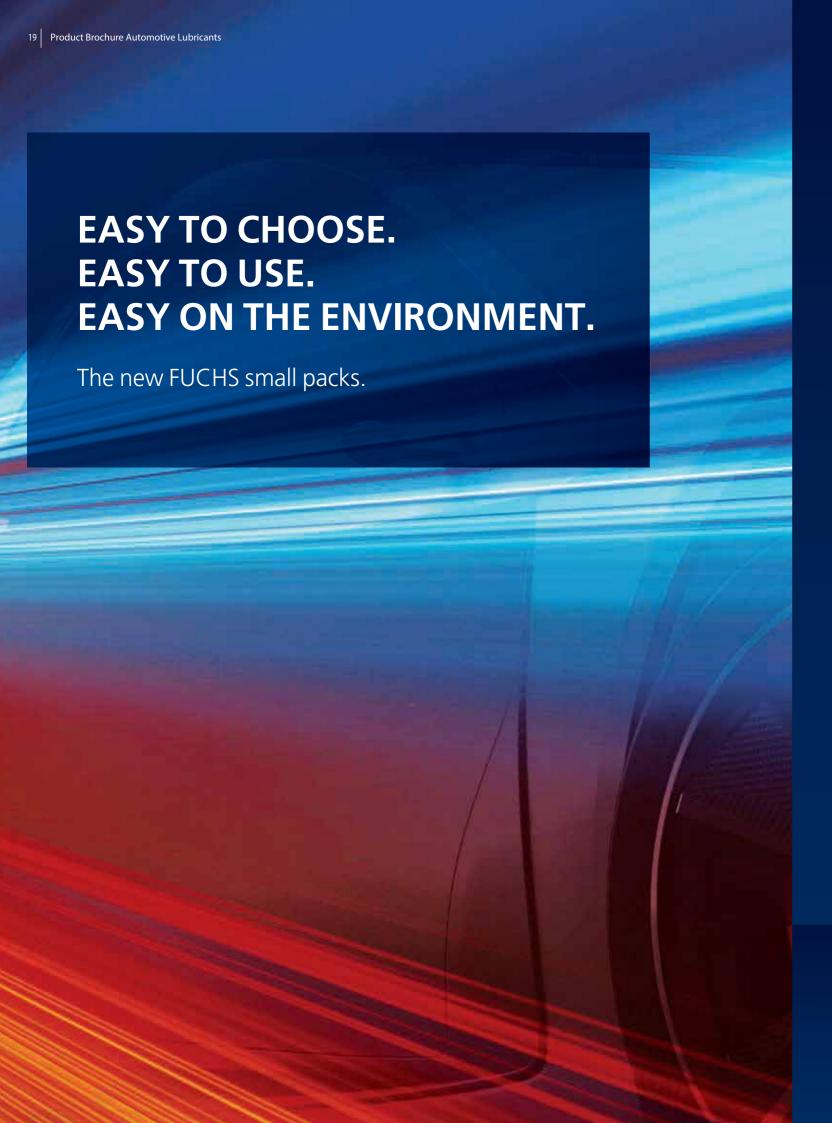


Good Reasons for

- **☆** German Premium Oils
- **☆** Complete Range
- Worldwide unique XTL®-Technology
- **Guaranteed OEM-Quality**
- Optimal Performance for Engine and Transmission

TITAN Race Series





At a glance





Ultra High Performance

1-Liter Bottle

Performance

FUCHS

GT1 PRO C-3

4-Liter Bottle



5-Liter Bottle

TITAN

Engine oil

Axle Gear Oils

Manual and Automatic Transmission Fluids

Double Clutch Transmission Fluids













MAINTAIN Antifreezes



TITAN Central Hydraulic Fluids

Our promise:



At FUCHS, you will always be sure of finding the perfect high-quality oil for your vehicle.

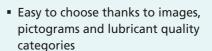
When it comes to oil for your vehicle, you don't want to spend a lot of time researching or dealing with complex labels and descriptions. Instead, you want all relevant information at a glance. And you want a product that's easy to use and to pour. We guide you quickly and directly to the right product for your vehicle, and offer a produce that's so easy to use. To ensure this, we enhanced both the shape of the samll pack and the label, based on stateof-the-art ergonomic findings and customers' feedback. The labels now feature easily recognizable images, pictographs and color codes to help you choose the right oil. The optimized small pack shape includes a longer neck for smoother pouring. Other details such as the new grip on 1-liter packs and the double handle on 4- and 5-liter packs improve weight distribution, making them much easier to handle. The new tamper - resistant screw cap with a slit flex band ensures there's original FUCHS oil in the small pack.

By choosing products in our new small packs, you also help reduce waste and your carbon footprint. The packs contain at least 30% post-consumer recycled (PCR) content and the lubricants are produced in our CO₂neutral* plants.

Finally, the newly designed small packs give you peace of mind that you are buying an original FUCHS product with German technology. All good reasons to choose FUCHS the next time you buy high-quality oil for your vehicle.

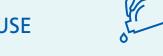






Updated, premium look and feel

EASY TO USE



- Improved ergonomics thanks to the redesigned small pack
- Easier pouring: refined neck design, grip area (1-liter packs), two handles (4- and 5-liter packs)
- New tamper-resistant screw cap

EASY ON THE ENVIRONMENT



- Recycled and recyclable packaging
- Improved residual emptying
- CO₂-neutral production











The range of oils for the automotive sector is huge. With the redesign of our small packs and labels, we give you maximum orientation - choosing the best oil has never been so easy!

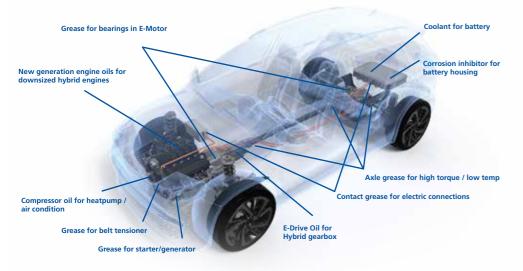


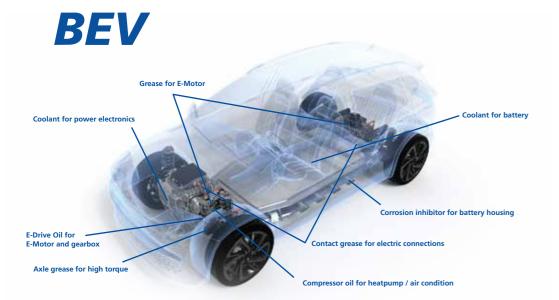
Easy to select: Find the right oil for your engine here!

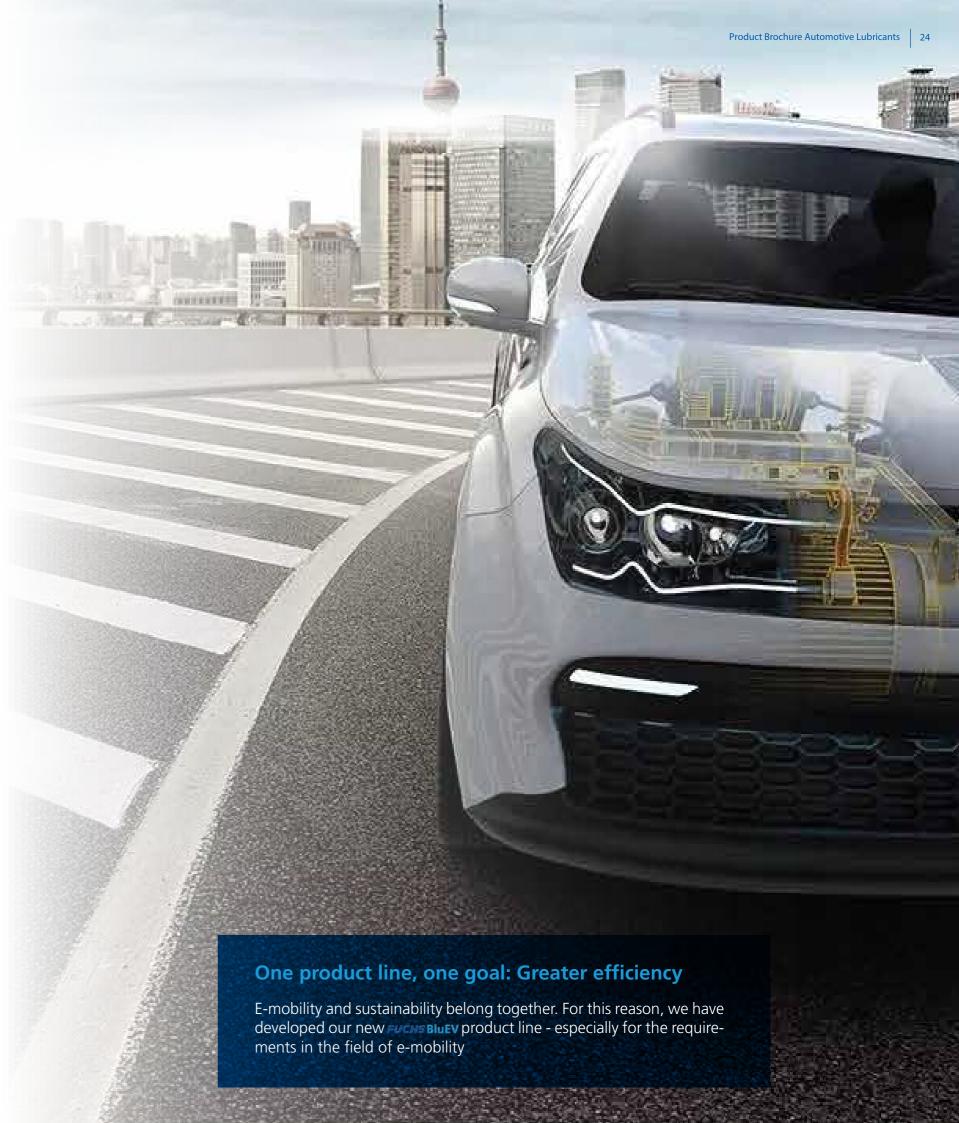




Hybrid









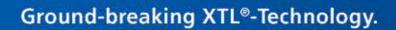


PASSENGER CARS

MOVING YOUR WORLD

TITAN



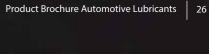


25 Product Brochure Automotive Lubricants

While starting, engine oils with XTL®-Technology reach faster and easier the parts of an engine, which urgently require a protective oil film - even under extreme conditions and over the entire duration of the oil change interval.

This means: Easier start-ups, less wear and lower fuel consumption. Even oil consumption is significantly lower than with conventional SAE 5W-30 oils.





TITAN GT1 FLEX 5

SAE 0W-20

Premium Performance engine oil with new XTL-Technology in path-breaking viscosity class. Specially designed for highly stressed downsized engines with maximum power output, for extreme fuel-economy characteristics and reduced CO2 emissions. Excellent cold starting behaviour, very fast oil circulation and outstanding performance reserves.



Specifications

- ACEA C5/C6
- API SN PLUS RC
- API SP RC
- ILSAC GF-6A

Approvals

- BMW LONGLIFE-17 FE+
- JAGUAR LAND ROVER STJLR.03.5006
- MB-APPROVAL 229.71
- MB-APPROVAL 229.72
- OPEL OV 040 1547

FUCHS Recommendations

- CHRYSLER MS-12145
- FIAT 9.55535-GSX
- FORD WSS-M2C947-A
- FORD WSS-M2C947-B1
- FORD WSS-M2C962-A1
- ILSAC GF-5
- JAGUAR LAND ROVER STJLR.51.5122
- VOLVO VCC RBS0-2AE

TITAN GT1 FLEX C23

SAE 5W-30

Premium Performance, extreme fuel-economy engine oil with optimum cold start ability and outstanding performance reserves. For modern passenger cars and light commercial vehicles with or without extended service intervals.



Specifications

- ACEA C2/C3
- API SP

Approvals

- BMW LONGLIFE-04MB-APPROVAL 229.31
- MB-APPROVAL 229.51
 MB-APPROVAL 229.51
- MB-APPROVAL 229.52
- OPEL OV 040 1547

FUCHS Recommendations

- CHRYSLER MS-11106FIAT 9.55535-S1 / -S3
- GM-LL-A-025
- GM-LL-B-025
- IVECO 18-1811 CLASSE SC1
- VW 505 00/505 01

TITAN GT1 FLEX 3

SAE 5W-40

Premium Performance, fuel-economy engine oil with new XTL-Technology for optimum cold start ability and outstanding performance reserves. For modern passenger cars and light commercial vehicles with or without extended service intervals. Specially developed for vehicles with exhaust after treatment and turbocharger.



Specifications

- ACEA C3
- API SN

Approvals

- BMW LONGLIFE-04
- MB-APPROVAL 226.5MB-APPROVAL 229.31
- MB-APPROVAL 229.51
- MB-APPROVAL 229.52PORSCHE C40
- RENAULT RN0700/RN0710
- VW 511 00

FUCHS Recommendations

- API CF
- CHRYSLER MS-10725
- FIAT 9.55535-GH2
- FIAT 9.55535-S2
- FIAT 9.55535-T2
- FORD WSS-M2C917-A
- VW 505 00/505 01

TITAN GT1 PRO C-3

SAE 5W-30

Premium Performance, extreme fuel-economy engine oil with new XTL-Technology for optimum cold start ability and outstanding performance reserves. For modern passenger cars and light commercial vehicles with or without extended service intervals. Specially developed for BMW, VW and Mercedes-Benz vehicles with exhaust after treatment and turbocharger.



Specifications

- ACEA C3
- API SN

Approvals

- BMW LONGLIFE-04
- MB-APPROVAL 229.51
- PORSCHE C30
- VW 504 00/507 00

- CHRYSLER MS-11106
- FIAT 9.55535-S3
- MB 229.52

TITAN SUPERSYN

FULLY SYNTHETIC

THAN SUPERSYN

FULLY SYNTHETIC

TITAN SUPERSYN LONGLIFE

SAE 0W-40

Ultra High Performance, fuel-economy engine oil for a variety of vehicles with or without extended service intervals. Excellent cold starting and lower oil consumption.



Specifications

- ACEA A3/B4
- API SN
- **Approvals** • MB-APPROVAL 229.5
- PORSCHE A40
- VW 502 00/505 00

FUCHS Recommendations

• FORD WSS-M2C937-A

TITAN SUPERSYN LONGLIFE

SAE 5W-40

Ultra High Performance, fuel-economy engine oil for a variety of vehicles with or without extended service intervals. Optimum cold starting and lower oil consumption.



Specifications

- ACEA A3/B4
- API SN

Approvals

- BMW LONGLIFE-01
- MB-APPROVAL 226.5
- MB-APPROVAL 229.5
- PORSCHE A40
- PSA B71 2296
- RENAULT RN0700/RN0710
- VW 502 00/505 00

FUCHS Recommendations

- CHRYSLER MS-12991
- FIAT 9.55535-H2/M2/N2/Z2

TITAN SUPERSYN F ECO-B

SAE 5W-20

Ultra High Performance, extreme fuel-economy engine oil especially developed for Ford EcoBoost gasoline engines. Optimum cold starting and lower oil consumption.



Specifications

- ACEA C5
- API SN
- FORD WSS-M2C948-B

Approvals

• JAGUAR LAND ROVER STJLR.03.5004

FUCHS Recommendations

- ACEA A1/B1
- CHRYSLER MS 6395
- FIAT 9.55535-CR1
- FORD WSS-M2C925-A • FORD WSS-M2C925-B
- FORD WSS-M2C945-A
- ILSAC GF-5

TITAN SUPERSYN F ECO-DT

SAE 5W-30

Ultra High Performance, extreme fuel-economy engine oil especially suitable for Ford DuraTorq-Diesel engines. Optimum cold starting and lower oil consumption.



Specifications

- ACEA A5/B5
- API SL
- FORD WSS-M2C913-C
- FORD WSS-M2C913-D

Approvals

- ACEA A1/B1
- API CF
- CHRYSLER MS 6395
- FORD WSS-M2C913-A
- FORD WSS-M2C913-B
- IVECO 18-1811 CLASSE \$1/\$2
- JAGUAR LAND ROVER STJLR.03.5003
- JAGUAR M2C913-B
- RENAULT RN0700

SAE 5W-40

Ultra High Performance, fuel-economy engine oil for a variety of vehicles with or without extended service intervals. Optimum cold starting and lower oil consumption.



Specifications

- ACEA A3/B4
- API SN/SM

Approvals

- MB-APPROVAL 229.3RENAULT RN0700/RN0710
- VW 502 00/505 00

FUCHS Recommendations

- API CF
- BMW LONGLIFE-98
- CHRYSLER MS-12991
- FIAT 9.55535-H2/M2/N2/Z2
- GM-LL-A-025
- GM-LL-B-025

TITAN SYN SP

SAE 0W-20

Ultra High Performance, fuel-economy engine oil for a variety of gasoline engines in passenger cars. Excellent cold starting behaviour and low oil consumption.



Specifications

- API SP
- ILSAC GF-6A

FUCHS Recommendations

• -

Approvals

TITAN SYN SP

SAE 5W-30

Ultra High Performance, fuel-economy engine oil for a variety of gasoline engines in passenger cars. Excellent cold starting behaviour and low oil consumption.



Specifications

- ACEA SP
- ILSAC GF-6A

Approvals

FUCHS Recommendations

• -

Ultra High Performance, fuel-economy engine oil based on MC-synthesis for a variety of gasoline and diesel engines in passenger cars. Lower oil consumption.



Specifications

ACEA A3/B4

33 Product Brochure Automotive Lubrica

• API SN

Approvals

- MB-APPROVAL 229.3
- RENAULT RN0700/RN0710VW 501 01/505 00

FUCHS Recommendations

- API CF
- FIAT 9.55535-D2/G2
- MB 229.1
- PSA B71 2300

TITAN FORMULA SN

TITAN FORMULA

SAE 5W-30

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



SpecificationsAPI SN

Approvals

FUCHS Recommendations

API CF

ILSAC GF-5

TITAN FORMULA SN

SAE 10W-30

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



SpecificationsAPI SN

Approvals

FUCHS Recommendations

API CF

• ILSAC GF-5



SpecificationsAPI SN

Approvals

FUCHS Recommendations

API CF

TITAN FORMULA SN

SAE 15W-50

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



SpecificationsAPI SN

Approvals

FUCHS Recommendations

API CF

TITAN FORMULA SL

SAE 10W-40

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



SpecificationsAPI SL

Approvals

FUCHS Recommendations

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TITAN FORMULA SL

SAE 15W-40

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



SpecificationsAPI SL

Approvals

FUCHS Recommendations

TITAN FORMULA SL

SAE 20W-50

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



Specifications

API SL

Approvals

FUCHS Recommendations

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TITAN TRUCK PLUS SAE

SAE 15W-40

Ultra High Performance Engine Oil for a variety of diesel and gasoline engines. Specially for highly-loaded commercial vehicle & pick up diesel engines. Lower oil consumption.



Specifications

- ACEA E7
- API CI-4 / SL
- GLOBAL DHD-1
- CAT ECF-1-a/ECF-2

Approvals

- CUMMINS CES 20076/7/8
- DETROIT DIESEL 93K215
- DEUTZ DQC III-18MACK EO-N
- MB-APPROVAL 228.3
- MTU DDC TYPE 2
- RENAULT RLD/RLD-2
- VOLVO VDS-3

- ALLISON C-4
- CAT TO-2
- CASE MS 1121
- CUMMINS CES 20071/2
- IVECO 18-1804 CLASSE T2 E7
- NH 330H



HIGH PERFORMANCE

TITAN UNIVERSAL CF-4

SAE 5W-30

High Performance Engine Oil for mixed fleets operated under normal conditions.



Specifications API CF-4/SG **Approvals**

TITAN UNIVERSAL CF-4

FUCHS Recommendations

SAE 10W-30

High Performance Engine Oil for mixed fleets operated under normal conditions.



Specifications API CF-4/SG

Approvals

FUCHS Recommendations

TITAN UNIVERSAL CI-4

SAE 15W-40

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



Specifications API CI-4/SL

Approvals

FUCHS Recommendations

TITAN UNIVERSAL CI-4

SAE 20W-50

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



Specifications API CI-4/SL

Approvals

FUCHS Recommendations

TITAN UNIVERSAL CG-4

SAE 15W-40

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



Specifications

Approvals API CG-4



TITAN UNIMAX CI

SAE 5W-30

Ultra High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



Specifications • API SN

Approvals

FUCHS Recommendations

- API CF
- ILSAC GF-5

TITAN UNIMAX ULTRA MC

SAE 10W-30

Ultra High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.



Specifications • API SN

Approvals

- API CF
- ILSAC GF-5



TITAN CARGO MAXX

SAE 10W-40

Premium MAXX Performance Engine Oil with new XTL-Technology. Specially developed for vehicles with modern exhaust after treatment and turbocharger. Good cold starting properties and ageing stability for fuel-economy over the whole drain-interval.



Specifications

- ACEA E9/E7/E6/E4
- API CJ-4
- JASO DH-2
- CAT ECF-3

Approvals

- DEUTZ DQC IV-10 LA (incl. TTCD)
- MACK EO-O PREMIUM PLUS
- MB-APPROVAL 228.31
- MB-APPROVAL 228.51
- MTU DDC TYPE 2.1
- MTU DDC TYPE 3.1
- RENAULT RLD-3
- SCANIA LA
- VOLVO VDS-4

FUCHS Recommendations

- CUMMINS CES 20081
- DETROIT DIESEL 93K218
- IVECO 18-1804 CLASSE TLS E9
- IVECO 18-1809 CLASSE NG2
- MB 235.28
- VOITH-RETARDER "B"

TITAN CARGO LA

SAE 15W-40

Premium Performance, fuel-economy engine oil, specially developed for commercial vehicles with modern exhaust after treatment systems and turbocharger. Offers good cold starting and lower oil consumption.



Specifications

- ACEA E9/E7/E6
- API CI-4
- JASO DH-2

Approvals

- DEUTZ DQC IV-10 LA (incl. TTCD)
- MACK EO-N
- MAN M 3271-1
- MAN M 3477
- MB-APPROVAL 228.51
- MTU DDC TYPE 3.1
- RENAULT RLD-2/RXD/RGD
- VOLVO VDS-3

FUCHS Recommendations

CUMMINS CES 20076/7

TITAN CARGO MC

SAE 20W-50

Premium Performance, fuel-economy engine oil based on MC-synthesis for a variety of commercial vehicle diesel engines. Specially developed for extended service intervals. Good cold starting and lower oil consumption.



Specifications

- API CI-4
- JASO DH-1
- ACEA E7/E4
- GLOBAL DHD-1
- **Approvals** CUMMINS CES 20077/8
- DETROIT DIESEL 93K215
- DEUTZ DQC III-18
- MACK EO-N
- MAN M 3277
- MB-APPROVAL 228.5
- MTU DDC TYPE 3
- RENAULT RLD-2
- VOLVO VDS-3

FUCHS Recommendations

- ALLISON C-4
- FORD WSS-M2C944-A
- IVECO 18-1804
- SDFG OM-1901A

SAE 10W-30

Premium Performance, fuel-economy engine oil, specially developed for commercial vehicle diesel engines with extended service intervals, exhaust after treatment and turbocharger.



Specifications

- ACEA E9
- CAT ECF-3 JASO DH-2
- **Approvals** CUMMINS CES 20086
- API CK-4/CJ-4
 DEUTZ DQC III-18 LA
 - FORD M2C171-F1

TITAN CARGO

TITAN CARGO

- MACK EOS-4.5 MAN M 3775
- MB-APPROVAL 228.31
- MTU DDC TYPE 2.1
- RENAULT RLD-3 VOLVO VDS-4.5

FUCHS Recommendations

- DETROIT DIESEL 93K222
- MAN M 3575
- RENAULT RLD-4

TITAN CARGO

SAE 10W-40

Premium Performance, fuel-economy engine oil for a variety of commercial vehicle diesel engines. Specially developed for vehicles with extended service intervals, exhaust after treatment and turbocharger.



Specifications

- **Approvals** ACEA E9/E7
- CAT ECF-3 JASO DH-2
- DEUTZ DQC III-18 LA API CK-4/CJ-4/SN• MACK EOS-4.5
 - MAN M 3775 MB-APPROVAL 228.31 • MTU DDC TYPE 2.1
 - RENAULT RLD-3
 - VOLVO VDS-4.5

FUCHS Recommendations

- CUMMINS CES 20086 DETROIT DIESEL 93K222
- MAN M 3575
- RENAULT RLD-4

TITAN CARGO

SAE 15W-40

Premium Performance, fuel-economy for a variety of commercial vehicle diesel engines. Specially developed for vehicles with extended service intervals, exhaust after treatment and turbocharger.



Specifications

- ACEA E9/E7
- CAT ECF-3
- API CK-4/CJ-4/SN• CUMMINS CES 20086
- JASO DH-2
- ALLISON TES-439 (439-34862020)
- DETROIT DIESEL 93K222
- DEUTZ DQC III-18 LA • FORD M2C171-F1
- MACK EOS-4.5

Approvals

- MAN M 3775
- MB-APPROVAL 228.31
- MTU DDC TYPE 2.1
- RENAULT RLD-3
- VOLVO VDS-4.5

FUCHS Recommendations MAN M 3575

- RENAULT RLD-4





TITAN ATF 9134 FE

Premium Performance Fuel Economy ATF with lowered viscosity. Specially developed for Mercedes-Benz-9-speed automatic tranmissions. (type 9-G Tronic)



Specifications

• MB-APPROVAL 236.17

Approvals

FUCHS Recommendations

 NISSAN MATIC P WSS-M2C937-A

TITAN 7134 FE

Premium Performance fuel economy ATF with reduced viscosity. Especially developed for further optimize gearbox efficiency of latest generation Mercedes-Benz 7-G Tronic Plus (NAG II +) automatic transmissions. Not downwards compatible with previous MB-ATF-Specifications.



Specifications

Approvals

• MB-APPROVAL 236.15

FUCHS Recommendations

TITAN ATF 6009

Premium Performance ATF, specially developed to optimize the shifting performance of latest generation ZF automatic transmissions. Product dyeing: green.



Specifications

Approvals

FUCHS Recommendations

- BMW 83 22 2 152 426
- BMW 83 22 2 289 720 (ATF 3+)
- BMW 83 22 2 305 397 (ATF 3)
- HONDA ATF TYPE 3.1
- JAGUAR 02JDE 26444 • LAND ROVER LR023288

NISSAN MATIC R

Automatic Transmission Fluids

FULLY SYNTHETIC

TITAN ATF 6400

Premium Performance ATF with reduced viscosity specifically formulated for automatic transmissions of Japanese and American manufacturers. Licensed according to **DEXRON VI and MERCON LV. Product dyeing: red.**



Specifications

JASO M315 TYPE 1A-LV

Approvals

- DEXRON VI
- FORD MERCON LV
- ZF TE-ML 09

FUCHS Recommendations

- AISIN WARNER/AW-1
- BMW 81 22 9 400 272
- BMW 81 22 9 400 275
- BMW 81 22 9 407 738
- BMW 83 22 0 397 114
- BMW 83 22 0 403 248
- BMW 83 22 0 403 249
- BMW 83 22 0 432 807
- BMW 83 22 2 163 514
- BMW 83 22 2 167 718
- BMW 83 22 2 167 720
- BMW 83 22 2 355 599
- BMW 83 22 2 355 601
- BMW 83 22 9 407 858 • BMW 83 22 9 407 859
- FIAT 9.55550-AV6
- GM 9256039/88863400
- HONDA DW-1
- HYUNDAI NWS 9638
- HYUNDAI SP IV
- HYUNDAI SP-IV M
- HYUNDAI SP-IV RR JWS 3324
- KIA SP-IV
- MITSUBISHI ATF-J3
- MITSUBISHI ATF-PA
- MITSUBISHI MA1
- NISSAN MATIC S
- TOYOTA TYPE WS
- VW G 055 540 A2

TITAN ATF 6008

Approvals

Premium Performance ATF, specially developed to optimize the shifting performance of ZF automatic transmissions. Product dyeing: green.

Automatic



Specifications

TE EFAIN

FUCHS Recommendations

• BMW 83 22 2 152 426

Transmission Fluids

- BMW 83 22 2 289 720 (ATF 3+)
- BMW 83 22 2 305 397 (ATF 3)
- CHRYSLER 68157995AA
- FIAT 9.55550-AV5
- JAGUAR 02JDE 26444
- LAND ROVER LR023288
- MB 236.82
- VW G 055 162 • VW G 060 162

TITAN ATF 6006

Premium Performance ATF, specially developed to optimize the shifting performance of ZF automatic transmissions. Product dyeing: none.



Specifications

Approvals

- AML Oil No. 4G4319A509/AA/S
- BENTLEY PY112995PA
- BMW 83 22 0 142 516
- BMW 82 22 0 144 137
- BMW 83 22 2 305 396
- HYUNDAI 040000C90SG
- JAGUAR FLUID 8432
- LAND ROVER TYK500050
- MASERATI 231603
- VW G 055 005

TITAN ATF 5668

Premium Performance ATF especially developed for highly stressed ALLISON step automatic transmissions in commercial vehicles. Product dyeing: red.



Specifications

Approvals

ALLISON TES 668®

FUCHS Recommendations

- ALLISON TES 295
- ALLISON TES 389
- VOLVO 97340
- VOLVO 97341

TITAN ATF 5500

Premium Performance ATF for automatic transmission in motor vehicles. Outstanding base oil quality for optimal cold temperature properties and high ageing stability. Durable friction properties for excellent shift performance. Product dyeing: none.



Specifications

Approvals

- EvoBus 27.000-017
- MAN 339 TYPE V1
- MAN 339 TYPE V2
- MAN 339 TYPE Z3
- MAN 339 TYPE Z12
- MB-APPROVAL 236.9
- VOITH 150.014524.xx
- VOLVO 97341
- ZF TE-ML 04D, 14C, 16M, 16S, 20C, 25C (ZF001797)

FUCHS Recommendations

- DEXRON III (H)
- ALLISON TES 295
- ALLISON TES 389
- IVECO 18-1807 CLASSE AG3/I
- MAN 339 TYPE Z4
- VOITH H55.6336.xx

TITAN ATF 4134

Ultra High Performance ATF, specially developed to optimise shifting performance of Mercedes automatic transmissions. Product dyeing: red.

Transmission Fluids

Automatic



Specifications

TE EFAN

Approvals

- MB-APPROVAL 236.14
- SSANG YONG

(MB-automatic transmissions)

FUCHS Recommendations

TITAN ATF 4000

Ultra High Performance ATF for use in automatic transmissions as well as other ATF applications. Licensed according to DEXRON III (H). Improved low-temperature shifting compared to DEXRON II. Product dyeing: red.



Specifications

Approvals

- DEXRON III (H)
- MAN 339 TYPE L1
- MAN 339 TYPE V1 MAN 339 TYPE Z1
- MB-APPROVAL 236.1
- MB-APPROVAL 236.9
- VOITH H55.6335.xx
- VOLVO 97341
- ZF TE-ML 04D, 14A (ZF000728)

- ALLISON C-4
- ALLISON TES 389
- BMW 81 22 9 400 272
- BMW 81 22 9 400 275
- BMW 81 22 9 407 738
- BMW 83 22 0 403 248 • BMW 83 22 9 407 765
- BMW 83 22 9 407 807
- BMW 83 22 9 407 858
- BMW 83 22 9 407 859
- CAT TO-2
- FORD MERCON
- OPEL 19 40 707 • OPEL 19 40 767
- VW TL 521 62 (G 052 162)
- ZF TE-ML 02F, 03D, 09, 11B, 17C

FULLY SYNTHETIC

Automatic Transmission Fluids

FULLY SYNTHETIC

SEMI SYNTHETIC

TITAN ATF 4400

Ultra High Performance ATF specifically formulated for Japanese passenger and light commercial vehicles, as well as transmissions used by several European and American manufacturers. It's high torque capacity exceeds the performance of many original fluids.



Specifications

• JASO M315 TYPE 1A

47 Product Brochure Automotive Lubricants

Approvals

FUCHS Recommendations

- DEXRON III
- BMW MINI 83 22 0 402 413
- BMW MINI 83 22 7 542 290
- CHRYSLER MS7176E/9602 (ATF +3/+4)
- DAIHATSU ALUMIX ATF MULTI
- FIAT 9.55550-AV1/AV4
- FORD MERCON
- FORD MERCON V
- FORD M2C924-A/M2C922-A1
- FORD WSS-M2C919-E
- FORD WSS-M2C202-B
- GM 9986195
- HONDA ATF Z-I
- HYUNDAI SP III
- ISUZU BESCO ATF -II/ATF -III
- JATCO 3100 PL085/FWD (N402)/JF506E (K17)
- JWS 3309/TYPE T-IV
- MAZDA ATF D-III/ATF M-3/M-V
- MITSUBISHI SP-II/-III
- NISSAN MATIC C/D/J
- SAAB 3309
- SUBARU ATF OIL/ATF OIL SPECIAL/ATF HP
- SUZUKI ATF 3309/3317 • TOYOTA TYPE D-2/T/T-II/T-III/T-IV
- VW G 052 990/055 025

TITAN ATF D3

High Performance ATF for transmissions, power steering systems and hydraulic drives which require a GM-specification DEXRON III fluid.



Specifications

Approvals

FUCHS Recommendations

DEXRON III

TITAN FFL-52529

Premium Performance DCTF with XTL-Technology for ultimate friction stability and best fuel economy properties. Specially developed for the wet clutch of the DL382 (0CK) transmission of VW group.

Double Clutch

Transmission Fluids



Specifications

THEAN

Approvals

• VW TL 52 529-C (G 055 529)

FUCHS Recommendations

TITAN FFL-2

Premium Performance DCTF. Specially developed for VW Double Clutch Transmission with wet clutch. Provides optimum wear protection and excellent friction properties even under hard conditions and offers best shifting performance over the whole lifetime.



Specifications

Approvals

 JAC DTF630 • VW TL 52 182 (G 052 182)

TITAN FFL-3

Premium Performance DCTF. Specially developed for ZF/Porsche Double Clutch Transmission with wet clutch.



Specifications

- **Approvals** • MB-APPROVAL 236.24
- ZF TE-ML 11 (ZF004742)

FUCHS Recommendations

- BMW 83 22 2 156 969 (MTF-LT-5)
- BMW 83 22 2 167 666 (MTF-LT-5)
- JAGUAR LAND ROVER GX73-
- M1R564-AA • PORSCHE 999 917 080 00

TITAN FFL-4

Premium Performance DCTF. Specially developed for GETRAG/BMW Double Clutch Transmission with wet clutch.



Specifications

Approvals

GETRAG (PWA05043)

FUCHS Recommendations

- BMW 83 22 0 440 214
- BMW 83 22 2 147 477
- BMW 83 22 2 148 578 • BMW 83 22 2 148 579
- BMW 83 22 2 446 673
- FORD WSS-M2C936-A
- McLaren: MP4-12C
- MITSUBISHI DIA QUEEN SSTF-1
- PSA 9734 S2
- VOLVO 1161838

TITAN FFL-10

TEFFAN

Premium Performance DCTF with XTL-Technology. Specially developed for Mercedes-Benz-8-speed Double Clutch Transmissions with wet clutch. Provides optimum wear protection and excellent friction properties over the whole lifetime and offers best shifting performance even under hard conditions.

Double Clutch

Transmission Fluids



Specifications

Approvals

• MB-APPROVAL 236.22

FUCHS Recommendations

TITAN FFL-RACING

Premium Performance DCTF. Specially developed for highly stressed double clutch transmissions.

Only for professional competition applications.



Specifications

Approvals

FUCHS Recommendations

• NISSAN GT-R (R35)

TITAN CVTF FLEX

Premium Performance CVTF specially designed for use in many CVT-gearboxes using push-belts or transmission chains made of steel.



Specifications

Approvals

FUCHS Recommendations

- FBMW 83 22 0 136 376
- BMW 83 22 0 429 154
- CHRYSLER CVTF+4
- DAIHATSU AMMIX CVTF-DC/-DFE
- DODGE/JEEP NS-2/CVTF+4
- FORD WSS-M2C933-A/MERCON C
- GM 19260800
- GM DEX-CVT
- GM HP CVTF
- HONDA HCF-2
- HYUNDAI/KIA SP-CVT1
- MAZDA CVTF 3320
- MITSUBISHI CVTF-J1/J4 • NISSAN NS-1/NS-2/NS-3
- SUBARU Lineartronic CV-30/ CVTF/CVTF II/E-CVT/iCVT
- SUZUKI TC/NS-2/CVT Green 1/ CVT Green 2/CVTF 3320
- TOYOTA TC/CVT FE
- VW TL 521 80 (G 052 180)
- VW TL 525 16 (G 052 516)

TITAN CVTF PRO 236.20

Premium Performance CVTF specially designed for Mercedes-Benz and FORD CVT-gearboxes.



Specifications

Approvals

• MB-APPROVAL 236.20

FUCHS Recommendations

FORD WSS-M2C928-A

TITAN CHF 11S

Premium Performance Power Steering and Central Hydraulic Oil with a wide application and approval profile for various manufacturers.



Specifications

TEFFAN

FORD WSS-M2C204-A

Approvals

- CHRYSLER MS-11655B
- EvoBus 39.060-001 MAN M 3289
- MB-APPROVAL 345.0
- PSA S71 2710
- ZF TE-ML 02K (ZF004744)
- VW TL 52 146 (G 002 000)

FUCHS Recommendations

- BENTLEY JNV862564F
- BMW 81 22 9 407 758
- BMW 82 11 1 468 041
- BMW 83 29 0 429 576
- FENDT X 902 011 622 IVECO 18-1807 CLASSE APU
- OPEL B 040 0070
- PORSCHE 000 043 203 33
- SAAB 3032 380
- VOLVO 1161529

TITAN CHF 202

Premium Performance Power Steering and Central Hydraulic Fluid with a wide application and approval profile for various manufacturers.



Specifications

FORD WSS-M2C204-A2

Approvals

- HYUNDAI 00232-19017 • OPEL B 040 2012
- VW TL 52 146.01 (G 004 000)

- AUDI/VW G 004 012
- PORSCHE 000 043 206 56
- PORSCHE 000 043 305 74
- SAAB 93160548
- VOLVO 30741424
- LAND ROVER LR003401

FULLY SYNTHETIC

SEMI SYNTHETIC

TITAN LHM+

Ultra High Performance Central Hydraulic Oil for use in the comfort and safety area of PSA vehicles.



Specifications

Approvals
• PSA B71 2710

FUCHS Recommendations

- IVECO 18-1823
- CNH MAT 3630
- NH 610A
- SDFG OF1611S

TITAN PSF

High Performance Power Steering Fluid approved by Mercedes-Benz for passenger cars and commercial vehicles.



Specifications

Approvals

MB-APPROVAL 236.3

FUCHS Recommendations

• -



TITAN SINTOFLUID FE

SAE 75W

Premium Performance Manual Transmission Fluid offering increased gearbox efficiency in passenger cars due to low viscosity level. Reduces fuel consumption and offers best properties at low temperature. Suitable as fill for life fluid according to manufacturer.

Specifications

API GL-4

Approvals

 MB-APPROVAL 235.17

FUCHS Recommendations

- FORD WSS-M2C200-D2
- VW G 055 512
- VW TL 521 71 (G 052 171 A1/A2)
- VW TL 521 78 (G 052 178 A2)
- VW TL 525 12 (G 052 512 A2)
- VW TL 525 27 (G 052 527 A2)
- VW TL 726 (G 052 726 A2/G 055 726 A2/ G 060 726 A2/G 070 726 A2)

TITAN SINTOFLUID

SAE 75W-80

Premium Performance Manual Transmission Fluid for passenger cars. Offering good gearbox efficiency. Suitable as fill for life fluid according to manufacturer.

Specifications

• API GL-4

Approvals

- BMW 83 22 0 403 247
- BMW 83 22 2 339 219
- BMW 83 22 7 533 818
- BMW 2300 1434 404 • BMW 2300 7533 513
- BMW 2300 7533 818
- FORD WSS-M2C200 C3

FUCHS Recommendations

- BMW 83 22 0 309 031 • OPEL 19 40 182
 - OPEL 19 40 757
 - OPEL 19 40 768 OPEL 19 40 776

 - VOLVO 97308
 - VW 501 50 (G 005 000 05/G 005 000/G 005 000 20/G 052
 - 911 A1/A2)

TITAN SINTOPOID LS

SAE 75W-90

Premium Performance, fully-synthetic multifunctional gear oil. Suitable for axles and transfer gearboxes with or without self-locking differentials and also as trouble shooter for conventional manual transmissions.

Specifications

• API GL-4/-5/-5 incl. LS

Approvals

FUCHS Recommendations

- FORD WSS-M2C200-C/C2
- VW G50/G51

TITAN CYTRAC TD

SAE 75W-90

Premium Performance Gear Oil for highly-stressed manual transmissions and hypoid axles in commercial vehicles formulated with fully-synthetic base oils. Developed for the longest oil change intervals.

Specifications

- API GL-4/GL-5
- API MT-1
- SAE J2360

Approvals

- DETROIT DIESEL 93K219.01
- MAN 341 TYPE Z2
- MAN 342 TYPE S1
 - MB-APPROVAL 235.8
 - MERITOR O-76-E
 - SCANIA STO 1:0
 - SCANIA STO 1:1 G
 - SCANIA STO 2:0 A FS
 - VOLVO 97312
 - ZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C, 21A (ZF003341)

FUCHS Recommendations

- JOHN DEERE JDM J11E
- JOHN DEERE JDM J11G
- MAN 341 TYPE E3
- MAN 342 TYPE M3

TITAN CYTRAC SL

SAE 75W-90

Premium Performance Gear Oil for highly-stressed hypoid axles in commercial vehicles formulated with fully-synthetic base oils. Developed for the longest oil change intervals in commercial vehicle axle drives.

Specifications

API GL-5

Approvals

- MAN 342 TYPE S1
- SCANIA STO 1:0

FUCHS Recommendations

- JOHN DEERE JDM J11E
- JOHN DEERE JDM J11G
- MB 235.8
- VOLVO 97312
- ZF TE-ML 05B, 07, 08, 12B,16F, 17B

TITAN CYTRAC MB SYNTH

SAE 75W-90

Premium Performance Gear Oil for gear boxes in commercial vehicles, specially developed for Mercedes-Benz Actros vehicles, formulated with fully-synthetic base oils. Reduces fuel consumption by improving gearbox efficiency. Suitable for the longest oil change intervals.

Specifications

API GL-4

Approvals • MAN 341 TYPE MB

- MB-APPROVAL 235.11

FUCHS Recommendations

ZF TE-ML 08

TITAN CYTRAC MAT

SAE 75W-90

Premium Performance Gear Oil for gear boxes in commercial vehicles, specially developed for manual and automatic ZF-gear boxes, formulated with selected base oils. Reduces fuel consumption by improving gearbox efficiency. Suitable for the longest oil change intervals and compatible with Carbon-Synchronizers.

Specifications

- API GL-4
- **Approvals** MAN 341 TYPE Z4
- ZF TE-ML 01L, 02L, 16K (ZF003373)

FUCHS Recommendations

- IVECO 18-1807 CLASSE MGS1
- MAN 341 TYPE E3
- MAN 341 TYPE Z3
- MAN 341 TYPE Z5
- VOLVO 97305
- VOLVO 97307
- ZF TE-ML 01E, 02D, 02E, 08, 16P

TITAN CYTRAC HSY

SAE 75W-90

Premium Performance Gear Oil for commercial vehicle manual transmissions and axle drives formulated with fully-synthetic base oils.

Specifications

- API GL-4/GL-5
- **Approvals** • EvoBus 26.000-032
- EvoBus 26.000-037
- ZF TE-ML 05A, 12L, 12N, 16F, 7B, 19C, 21A (ZF000642)

FUCHS Recommendations

- MAN 341 TYPE E3
- MAN 341 TYPE Z2
- MAN 342 TYPE M3
- MAN M 3343 TYPE S
- JOHN DEERE JDM J11E
- JOHN DEERE JDM J11G
- SCANIA STO 1:0
- ZF TE-ML 05B, 07, 21B

TITAN UTTO TO-4

SAE 10W

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.

Specifications

API SL

Approvals

FUCHS Recommendations

TITAN UTTO TO-4

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.

Specifications API SL

Approvals

FUCHS Recommendations

TITAN UTTO TO-4

SAE 50

High Performance Engine Oil specially for all normally aspirated and turbocharged gasoline engines in passenger cars operated under normal conditions.

Specifications API SL

Approvals

- API GL-5
- SAE J306: 85W-90

Approvals

• ZF TE-ML 05C, 12C, 16E, 21C (ZF000651)

FUCHS Recommendations

- MIL-L-2105 D
- FORD M2C104-A
- JOHN DEERE JDM J11F
- NH 520B
- VOLVO 97310
- ZF TE-ML 12C

TITAN GEAR MP

SAE 80

High Performance Gear Oil for synchronized and non-synchronized manual gearboxes as well as auxiliary drives, axles and differentials in commercial vehicles and passenger cars.

Specifications

• API GL-4

Approvals

• MB-APPROVAL 235.1

• ZF TE-ML 17A (ZF000654)

FUCHS Recommendations

- BMW 81 22 9 407 052
- BMW 81 22 9 407 053
- BMW MTF 1
- (BMW 81 22 2 339 384) FORD M2C9008-A
- VW TL 726
- ZF TE-ML 08

TITAN GEAR HYP

SAE 90

High Performance Gear Oil for highly-stressed differentials in commercial vehicles and passenger cars.

Specifications

• API GL-5 • SAE J306: 85W-90 **Approvals**

 MB-APPROVAL 235.0 • ZF TE-ML 16C, 17B, 19B, 21A (ZF000656)

FUCHS Recommendations

- FORD SR-M2C9102-A
- JOHN DEERE JDM J11E
- MAN 342 TYPE M1 OPEL 19 42 387
- VOLVO 97310
- VW TL 727
- ZF TE-ML 07, 08

TITAN GEAR GL-5

SAE 90

High Performance Gear Oil for highly-stressed differentials in commercial vehicles and passenger cars.

Specifications

• API GL-5

Approvals

Approvals

FUCHS Recommendations

TITAN GEAR GL-4

SAE 90

High Performance Gear Oil for synchronized and non-synchronized manual gearboxes as well as auxiliary drives in commercial vehicles and passenger cars.

Specifications

API GL-4

Approvals

FUCHS Recommendations

TITAN GEAR GL-4

SAE 140

High Performance Gear Oil for synchronized and non-synchronized manual gearboxes as well as auxiliary drives in commercial vehicles and passenger cars.

Specifications API GL-4

Approvals



MAINTAIN Coolants

MAINTAIN FRICOFIN DP

Premium Performance Coolant Concentrate based on monoethylene glycol. Free of nitrites, amines and phosphates with Si-OAT-technology. Product dyeing: pink-violet.



Specifications

- AFNOR NF R 15-601 TYPE 1
- AS/NZS 2108:2004 TYPE A
- ASTM D 3306 TYPE I
- ASTM D 4985
- BS 6580:2010
- SAE J814

Approvals

- CUMMINS CES 14603
- DEUTZ DQC CC-14
- MAN 324 TYPE Si-OAT
- MB-APPROVAL 325.5 MB-APPROVAL 325.6
- VW TL 774-G (G12++)

FUCHS Recommendations

- DETROIT DIESEL 93K217
- SCANIA TB 1451

MAINTAIN FRICOFIN DP 50

Premium Performance Coolant Ready-Mix based on monoethylene glycol. Free of nitrites, amines and phosphates with Si-OAT-technology. Offers frost protection down to -40°C. Product dyeing: pink-violet



Specifications

- AFNOR NF R 15-601 TYPE 3
- ASTM D 3306 TYPE III
- ASTM D 4985
- BS 6580:2010
- SAE J814
- CUMMINS CES 14603

Approvals

- DEUTZ DQC CC-14
- MAN 324 TYPE Si-OAT
- MB-APPROVAL 326.5
- MB-APPROVAL 326.6
- VOITH (172.00225040 Type Si-OAT)
- VW TL 774-G (G12++)

- DETROIT DIESEL 93K217
- MTU MTL 5048
- SCANIA TB 1451

MAINTAIN Coolants

MAINTAIN Coolants

MAINTAIN FRICOFIN LL

Premium Performance Coolant Concentrate based on monoethylene glycol. Free of nitrites, amines, phosphates and silicates with OAT-technology. Product dyeing: orange.



Specifications

- ASTM D 3306 TYPE I
- ASTM D 6210 TYPE I-FF
- BS 6580:2010
- SAE J814
- FORD WSS-M97-B44-D
- JAGUAR LAND ROVER STJLR.651.5003
- FVV Heft R443
- KSM 2142
- UNE 26-361-88/1

Approvals

- · Bez.Reg.Arnsbg. E62.12.22.64-2011-1
- CAT / MWM TR 0199-99-2091
- DAF 74002
- DEUTZ DQC CB-14 MAN 324 TYPE SNF
- MB-APPROVAL 325.3
- MTU MTL 5048

FUCHS Recommendations

- AFNOR NFR 15-601 TYPE I
- AS/NZS 2108:2004 TYPE A
- ASTM D 4985
- SAE J1034
- ADE (ATLANTIS DIESEL ENGINES)
- BAIC GROUP FOTON Q-FPT 2313005-2013
- CATERPILLAR MAK A4.05.09.01
- CHRYSLER MS 12106
- CNH MAT 3624
- CNH MAT 3724 • CUMMINS (ISBe engines at DAF and Leyland)
- CUMMINS CES 14603, CES 14439
- DETROIT DIESEL 93K217
- FIAT 9.55523
- GM GMW 3420 (6277M)/GME L 1301
- HYUNDAI MS 591-08
- JASO M325
- JIS K2234
- JOHN DEERE JDM H5
- KOMATSU AF-NAC (07.892 (2009))
- LIEBHERR MD 1-36-130
- MACK 014 GS 17009
- MAZDA MEZ MN 121 D
- PSA B 71 5110
- RENAULT 41-01-001/- -S Type D
- Bergen Engines 2.13.01
- SAAB B 040 1065
- SKODA 61-0-0257
- TOYOTA TSK 2601G-8A
- VW TL 774-D/F (G12+ / different colour)
- VOLVO COOLANT VCS (STD 418-0001)
- VOLVO COOLANT XLC (STD 418-0005)

MAINTAIN FRICOFIN LL 50

Premium Performance Coolant Ready-Mix based on monoethylene glycol. Free of nitrites, amines, phosphates and silicates with OAT-technology. Offers frost protection down to -40°C. Product dyeing: orange.



Specifications

- ASTM D 3306 TYPE III
- ASTM D 6210 TYPE III-FF
- BS 6580:2010

Approvals

- CAT / MWM TR 0199-99-2091
- DAF 74002
- DEUTZ DQC CB-14
- MAN 324 TYPE SNF MB-APPROVAL 326.3
- MTU MTL 5048

- ASTM D 4985
- SAE J1034
- Bez.Reg.Arnsbg. E62.12.22.64-2011-1
- CATERPILLAR MAK A4.05.09.01
- CHRYSLER MS 12106
- CNH MAT 3624
- CNH MAT 3724
- CUMMINS CES 14603, CES 14439 DETROIT DIESEL 93K217
- FIAT 9.55523
- FORD WSS-M97-B44-D2
- GM GMW 3420 (6277M)
- HYUNDAI MS 591-08
- JAGUAR LAND ROVER STJLR.651.5003
- JOHN DEERE JDM H5
- KOMATSU AF-NAC (ready mix) (07.892 (2009))
- LIEBHERR MD 1-36-130
- MACK 014 GS 17009
- MAZDA MEZ MN 121 D • PSA B 71 5110
- RENAULT 41-01-001/- -S Type D
- SAAB B 040 1065
- SKODA 61-0-0257
- TOYOTA TSK 2601G-8A
- VAUXHALL GME L1301
- VOLVO COOLANT VCS (STD 418-0001)
- VW TL 774-D/F (G12+ / different colour)

MAINTAIN FRICOFIN V

Premium Performance Coolant Ready-Mix based on monoethylene glycol. Free of nitrites, amines and phosphates with hybrid technology. Offers frost protection down to -37°C. Product dyeing: blue-green.



Specifications

- AFNOR NF R 15-601 TYPE 3 • ASTM D 3306 TYPE III
- ASTM D 4985
- BS 6580:2010
- SAE J814

Approvals

- DEUTZ DQC CA-14
- MB-APPROVAL 326.0
- MTU MTL 5048

FUCHS Recommendations

- BMW LC-87 (BMW GS 94000)
- DAF 74001
- INNIO JENBACHER TA 1000-0201
- LIEBHERR TLV 035/TLV 23009 A
- MAN 324 TYPE NF
- MAN 324 TYPE NF PRITARDER
- CAT / MWM TR 0199-99-2091
- OPEL/GM B 040 0240
- PN-C 40007:2000
- VOITH TURBO 172.00225010
- VW TL 774-C (G11)

MAINTAIN DOT 4 HT

Premium Performance Brake Fluid for hydraulic brake systems and clutch actuation in passenger cars, trucks and motorcycles.



Specifications

- FMVSS NR. 116 DOT 3/4
- ISO 4925 CLASS 3/4
- JIS K2233 CLASS 3/4 • SAE J1703/J1704

Approvals

- FORD M6C62-A FORD M6C9103-A
- NH 800A
- OPEL 19 42 421

FUCHS Recommendations

• VW TL 766-X

MAINTAIN DOT 514 LV

Premium Performance Brake Fluid for hydraulic brake systems and clutch actuation in passenger cars, trucks and motorcycles.



Specifications

- FMVSS NR. 116 DOT 3/4/5.1
- ISO 4925 CLASS 3/4/5-1/6/7
- JIS K2233 CLASS 3/4/5/6
- SAE J 1703/1704

Approvals

- **FUCHS Recommendations** • BMW QV 34001
- FORD M6C65-A2
- GM Europa GMW 3356
- MB 331.0
- PSA S71 2114
- RENAULT 41-02-001/--H
- VW TL 766-Y, 766-Z

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Understanding Engine Oil Specifications

Industry standard specifications are developed and constantly evolved to meet the needs of modern engine designs and applications. This guide explains what the most important engine oil specifications are and what they mean:

The following properties of an engine oil are described by SAE (Society of Automotive Engineers) grades. Taking the example of an SAE 0W-30 engine oil, the first numeral describes the viscosity at low temperatures. The smaller this number the better the oil flows at low temperatures to reach the important lubrication points in the engine. The second figure describes the viscosity at running temperatures.

The European ACEA (Association des Constructeurs Europeens d'Automobiles; aka European Automobile Manufacturers Association) specifications designate engine oil applications with letters:

for car gasoline engines

for small-capacity diesel engines in cars, vans and transporters

for cars fitted with exhaust particulate filters

for commercial vehicle diesel engines

API (American Petroleum Institute) categories refer to American requirements and quality criteria, which engine oils must fulfil. The current API grades are SP for gasoline engines and C for commercial diesel engines.

Category for low viscosity engine oils with a particular low High Temperature, High Shear viscosity (HTHS, <3.5m Pas). Recommended viscosity grades are XW-30 and XW-20.

Category for conventional and low-viscosity engine oils.

Category for conventional and low-viscosity engine oils with greater demands than A2. Out-performs ACEA A2 with regard to Noack (evaporation losses), piston cleanliness and oxidation stability

Category for conventional and low-viscosity engine oils. Corresponds to ACEA A3 but with lower HTHS viscosity. A reduction in fuel consumption of 2.5 % compared to a 15W-40 reference oil must be proven in a test engine.

Category for low-viscosity engine oils with particularly low High Temperature High Shear viscosity (corresponds to A1).

Category for conventional and low viscosity engine oils.

Category for conventional and low-viscosity engine oils. Out-performs ACEA B2 with regard to cam wear, piston cleanliness and viscosity stability in high soot conditions.

New category for diesel Direct Injection engines (TDI).

Corresponds to ACEA B4 but with lower HTHS viscosity. A reduction in fuel consumption of 2.5 % compared to a 15W-40 reference oil must be proven in a test engine

Introduced in 10/2004 for car diesel engines fitted with exhaust particulate filters. Sulphate ash content, max. 0.5 % with lowered HTHS (most common in Mazda & Ford).

Introduced in 10/2004 for car diesel engines fitted with exhaust particulate filters. Sulphate ash content, max. 0.8 % with HTHS > 2.9 mPas (most common in Peugeot / Citroen / Renault).

Introduced in 10/2004 for car diesel engines with exhaust particulate filters. Sulphate ash content, max. 0.8 % with HTHS > 3.5 % mPas (widest appeal of the ACEA C Series).

Sulphated Ash content as C1, HTHS viscosity and FE as C3. Low minimum TBN (most common in Renault & Nissan).

Mid-SAPS oil, Sulphated Ash content as C2 and C3, but a HTHS viscosity \geq 2.6 / >2.9 mPa.s. TBN as per C4. Fuel economy improvement performance as C1 (2% better than C3).

Stable, stay-in-grade engine oil for improved fuel economy, with mid-SAPS Level, for aftertreatment system compatibility. Intended for use at extended oil drain intervals in passenger car and light-duty gasoline & DI diesel engines designed and OEM-approved for engine oils with HTHS viscosity of minimum 2.6 mPaxs. Relative to C5 these engine oils provide also low speed pre-ignition- and wear protection for turbocharged gasoline DI engines as well as turbocharger compressor deposit (TCCD) protection for modern DI diesel engines.

ILSAC OIL SPECIFICATIONS:

ILSAC, International Lubricants Standardization and Approval Committee, is formed in 1992 by AAMA (American Automobile Manufacturers Association, representatives of DaimlerChrysler Corporation, Ford Motor Company and General Motors Corporation) and JAMA (Japan Automobile Manufacturers Association) to define the need, parameters, licensing and administration of lubricant specifications. Together with the Tripartite system (API, SAE and ASTM) the formed EOLCS, the Engine Oil Licensing and Certification System. ILSAC oils often carry the API Service Symbol (Donut) including the Energy Conserving designation and/or API Certification Mark (Starburst)

- ILSAC GF-1 The ILSAC GF-1 standard indicates the oil meets both API SH and the Energy Conserving II (EC-II) requirements. It was created in 1990 and upgraded in 1992 and became the minimum requirement for oil used in American and Japanese automobiles.
- ILSAC GF-2 replaced GF-1 in 1996. The oil must meet both API SJ and EC-II requirements. The GF-2 standards requires 0W-30, 0W-40, 5W-20, 5W-30, 5W-50, 10W-30, 10W-40 and 10W-50 motor oils to meet stringent requirements for phosphorus content, low temperature operation, high temperature deposits and foam control.
- ILSAC GF-3 An ILSAC GF-3 an oil must meet both API SL and the EC-II requirements. The GF-3 standard has more stringent parameters regarding long-term effects of the oil on the vehicle emission system, improved fuel economy and improved volatility, deposit control and viscosity performance. The standard also requires less additive degradation and reduced oil consumption rates over the service life of the oil.
- ILSAC GF-3 An ILSAC GF-3 an oil must meet both API SL and the EC-II requirements. The GF-3 standard has more stringent parameters regarding long-term effects of the oil on the vehicle emission system, improved fuel economy and improved volatility, deposit control and viscosity performance. The standard also requires less additive degradation and reduced oil consumption rates over the service life of the oil.
- ILSAC GF-4 ILSAC GF-4 is similar to the API SM service category, but it requires an additional sequence VIB Fuel Economy Test (ASTM D6837)
- ILSAC GF-5 Introduced in October 2010 for 2011 and older vehicles, designed to provide improved high temperature deposit protection for pistons and turbochargers, more stringent sludge control, improved fuel economy, enhanced emission control system compatibility, seal compatibility, and protection of engines operating on ethanol-containing fuels up to E85.
- ILSAC GF-6 The ILSAC GF-6 specification is divided into two sub-specifications. ILSAC GF-6A is fully backward compatible with ILSAC GF-5 but offers better fuel economy, better engine protection and improved performance while maintaining durability. ILSAC GF-6B delivers similar performance as ILSAC GF-6A but will allow lower viscosity oils like xW-16, taking advantage of the fuel economy benefits however should not be assumed as backwards compatible to vehicles listing ILSAC GF-6A requirements.

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Understanding Manufacturer Approvals

Many Original Equipment Manufacturers issue standards for their vehicles known as 'Approvals'.

Once issued, it is up to lubricant manufacturers to produce products which meet these specific standards.

Fuchs is a lubricant manufacturer dedicated to making products which meet these specific standards in order to secure these highly sought

The following is a list of key global Original Equipment Manufacturer 'Approvals':

INFORMATION ON KEY VW APPROVALS

VW 500 00	Low-viscosity oils for gasoline and normally-aspirated diesel engines. Only SAE 0W-XX, 5W-XX and SAE 10W-XX oils. $XX > 40$ oils were not included after 10/91.			
VW 501 01	Multigrade engine oils without low-viscosity characteristics for gasoline and normally-aspirated diesel engines.			
VW 502 00	Low-viscosity oils for gasoline engines operated in difficult conditions			
VW 503 00	Specification for gasoline car engines with extended service intervals			
	(30,000 km or 2 years). Surpasses the requirements of 50200, (HTHS 2.9 mPas).			
VW 503 01	Specification for turbocharged gasoline car engines with extended service intervals, e.g. Audi S3, TT (HTHS > 3.5mPas).			
VW 504 00	VW specification for vehicles with or without Long life Service			
	For gasoline engines			
VW 505 00	All-season engine oils for diesel engines with or without turbo charging.			
VW 505 01	All-season engine oils especially for Unit Pump diesel engines.			
VW 506 00	Specification for diesel engines with extended service intervals (50,000 km or 2 years, HTHS 2.9 mPas)			
VW 506 01	Specification for Unit Pump diesel engines with extended service intervals.			
VW 507 00	VW specification for vehicles with or without Long life Service, For diesel engines fitted with exhaust particulate filter systems.			

VW 508 00/VW 509 00 Specifications 508 00 and 509 00 concern the so-called "VW Blue Oil" for the latest generations of engines from VW. The specifications demand an oil in viscosity class SAE 0W-20 with a reduced HTHS viscosity of at least 2.6 mPa.s. This allows fuel savings of at least 4% to be achieved. The first of these engines have been available on the market since the end of 2015. Specifications VW 508 00 and 509 00 are not backwards compatible with previous VW specifications. In contrast, specification VW 504 00 can be used wherever older VW specifications for petrol engines are required, for example. For diesel engines, specification VW 507 00 can also be used for the corresponding older diesel specifications.

INFORMATION ON KEY BMW APPROVALS

BMW Spezial	Engine oils for gasoline or diesel engines prior to 1998.
BMW Longlife-98	Engine oils for special gasoline engines after 1998.
BMW Longlife-01	Engine oils for special gasoline or diesel engines after 09/01.
BMW Longlife-01 FE	Engine oils for certain gasoline engines after 2001.
BMW Longlife-04	Engine oils for certain engines after 2004.
BMW Longlife-12 FE	Engine oils for engines from 2013.
BMW Longlife-14 FE	Special motor oil for the following gasoline engines only: N20, Bx8 from model year 2014. Not allowed for diesel engines.
BMW Longlife-17 FE	This specification requires a low SAPS, usually ACEA C5 compliant, 0W20 oil. Oils meeting this specification are usually recommended for the newest gasoline and diesel-powered BMWs. Given the ability across both Gasoline and Diesel this specification replaced the LL-14+.

INFORMATION ON KEY MB APPROVALS

MB 228.1	Multigrade engine oils for turbocharged diesel engines.
MB 228.3	SHPD engine oils for highly turbocharged diesel engines. Extended oil change intervals up to 45,000 km.
MB 228.5	UHPD (Ultra High Performance Diesel) engine oils for highly turbocharged diesel engines. Extended oil change intervals in light-duty engines up to 45,000 km. Up to 160,000 km possible in heavy-duty diesel engines (with service interval displays).
MB 228.51	UHPD engine oils based on MB 228.5 with particular suitability for diesel particulate filters fitted to Eur
MB 229.1	Engine oil for gasoline and diesel car engines. More stringent than ACEA A2/A3 and B2/B3.
MB 229.3	Similar demands as 229.1 but with extended oil change intervals (30,000 km)
MB 229.31	Engine oils for cars fitted with diesel particulate filters.
MB 229.5	Engine oils for cars with extended oil change intervals (20.000 km), low pollution.
MB 229.51	Engine oils for cars with diesel particulate filters and extended oil change intervals.
MB 229.52	Especially for the Bluetec engines (OM 642: emission standar and fuel economy. Backwards compatible with 229.51.
MB 229.71	The Mercedes-Benz MB 229.71 oil quality specification was introduced around 2016 but was not recommended for oil change services until 2019. The MB 229.71 oil specification is a Mid-Low SAPS (Sulfated Ash Phosphorus Sulfur) additive formulation developed for gasoline engines equipped with GPF (Gasoline Particulate Filter) and diesel engines with DPF (Diesel Particulate Filter) emission systems. The engine oil is formulated to achieve improved fuel economy and extended oil change intervals. The MB 229.71 specification requires a minimum high temperature and high shear viscosity of HTHS of 2.6 to 2.9 mPa*s and TBN (Total Base Number) of 7.5 or higher in a 0W-20 viscosity. The Mercedes-Benz MB 229.71 oil standard correlates with the ACEA C5 oil specification.
MB 229.72	The Mercedes-Benz MB 229.72 oil standard correlates closely with the ACEA C6 oil specification. It provides even greater protection over LSPI, Chain wear and Turbocharger deposits than the already high performance of ACEA C5 based types.

INFORMATION ON KEY GM APPROVALS

GM-LL-A-025	Engine oils for gasoline car engines, Fuel Economy.
GM-LL-B-025	Engine oils for diesel car engines, Fuel Economy.
dexos1 TM GEN 3	Engine oil for gasolines engines.
dexos2 TM	Engine oil for diesel and gasoline engines.



Notes

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FUCHS Lubricants

Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced FUCHS employees will be glad to advise on products for the application in question and also on our full range

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