



**Axles and wheel heads for buses and trucks**

**List of lubricants TE-ML 12**

| <b>Table of contents</b>   | <b>Page</b> |
|--|-------------|
| <a href="#">1. Axles and wheel heads for buses</a> .....   | 1           |
| <a href="#">2. Electric axles for buses</a> .....  | 1           |
| <a href="#">3. Axles for trucks</a> .....  | 2           |
| <a href="#">4. Oil level check, oil and grease change intervals, breather maintenance, ZF diaphragm breather</a> ..... | 2           |
| <a href="#">4.1 Axles and wheel heads for buses (A, AV and RL series)</a> .....  | 2           |
| <a href="#">4.2 Electric axles for buses (AVE 130)</a> .....   | 3           |
| <a href="#">4.3 Axles for trucks (APL 9000, APL 90)</a> .....  | 3           |
| <a href="#">5. Low temperatures limits</a> .....   | 3           |
| <a href="#">6. Explanation of footnotes and comments</a> .....   | 4           |
| <a href="#">7. Lubricant classes and approved trade products</a> .....   | 5           |

**1. Axles and wheel heads for buses**

| Product group  | Lubricant classes for service fills <sup>(1)</sup>  |
|--|---|
| Axles A series, wheel heads RL series  | <a href="#">ZF EcoFluid X SAE 80W-90</a><br>12B / 12E / 12M / 12N   |
| Low-floor portal axles AV series   | <a href="#">ZF EcoFluid X SAE 80W-90</a><br>12B / 12E / 12M / 12N<br><a href="#">ZF EcoFluid XL SAE 75W-85</a><br>12F |
| Low-floor portal axles AV 133<br>with efficiency package                               | <a href="#">ZF EcoFluid XL SAE 75W-85</a><br>12F  |
| Grease-lubricated wheel bearings with individual<br>mounts at the front and rear axles | 12G   |
| Compact bearings (hub unit) in the wheel heads at the<br>front and rear axles          | 12H   |
| General greasing points  | 12G   |
| General greasing points<br>Lubrication by means of centralized lubricating system      | 12P   |

**2. Electric axles for buses**

| Product group   | Lubricant classes for service fills <sup>(1)</sup> |
|---|--|
| AVE 130   | <a href="#">ZF EcoFluid X SAE 80W-90</a><br>12L    |
| Compact bearing (hub unit) in the wheel heads at<br>the central and rear axles of the AVE 130 | 12H  |

The list of lubricants TE-ML 12, **edition 10.10.2024** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under [www.aftermarket.zf.com/lubricants](http://www.aftermarket.zf.com/lubricants).

**ZF Friedrichshafen AG**  
D-88038 Friedrichshafen  
[www.zf.com/contact](http://www.zf.com/contact)

### 3. Axles for trucks

| Product group  | Lubricant classes for service fills <sup>(1)</sup>  |
|--|---|
| APL 9000, APL 90   | <a href="#">ZF EcoFluid X SAE 80W-90</a><br>12B / 12E / 12M / 12N<br><a href="#">ZF EcoFluid XL SAE 75W-85</a><br>12F |
| Compact bearing (hub unit) in the wheel heads at the front axles of the APL 90 | 12H   |
| General greasing points  | 12G   |

### 4. Oil level check, oil and grease change intervals, breather maintenance, ZF diaphragm breather

#### 4.1 Axles and wheel heads for buses (A, AV and RL series)

| Lubricant class                      | Operating conditions   | Oil level check             | Oil change intervals and breather maintenance, ZF diaphragm breather <sup>(4)</sup> | Oil change intervals and breather maintenance, ZF diaphragm breather <sup>(4)</sup> Hot-country operation <sup>(3)</sup> |
|--------------------------------------|--|-----------------------------|---|--|
| 12B, 12E                             | Line operation<br>City operation<br>Suburban operation<br>Coaches  | With each engine-oil change | 150.000 km /<br>100,000 miles /<br>3 years <sup>(2)</sup>                           | 60.000 km /<br>40,000 miles /<br>1 year <sup>(2)</sup>   |
|                                      | Coaches and suburban operation for A 133 axles with ZF diaphragm breather  |                             | 200.000 km /<br>120,000 miles /<br>3 years <sup>(2)</sup>                           | 100.000 km /<br>60,000 miles /<br>1 year <sup>(2)</sup>  |
| ZF EcoFluid X SAE 80W-90<br>12M, 12N | Line operation<br>City operation<br>Suburban operation<br>Coaches  |                             | 180.000 km /<br>110,000 miles /<br>3 years <sup>(2)</sup>                           | 120.000 km /<br>80,000 miles /<br>2 years <sup>(2)</sup>   |
|                                      | Coaches and suburban operation for A 133 axles with ZF diaphragm breather  |                             | 300.000 km /<br>180,000 miles /<br>3 years <sup>(2)</sup>                           | 200.000 km /<br>120,000 miles /<br>2 years <sup>(2)</sup>  |
| ZF EcoFluid XL SAE 75W-85<br>12F     | Line operation<br>City operation<br>Suburban operation for low-floor portal axles AV series                      |                             | 180.000 km /<br>110,000 miles /<br>3 years <sup>(2)</sup>                           | 120.000 km /<br>80,000 miles /<br>2 years <sup>(2)</sup>   |
|                                      | Line operation<br>City operation<br>Suburban operation for low-floor portal axles AV 133 with efficiency package |                             | 300.000 km /<br>180,000 miles /<br>5 years <sup>(2)</sup>                           | 180.000 km /<br>110,000 miles /<br>3 years <sup>(2)</sup>  |

| Grease class  | Operating conditions                            | Check   | Change interval  |
|---|---|---|--|
| 12H - Compact bearings (hub unit) in the wheel heads at the front and rear axles          | Line operation<br>Suburban operation            | Refer to ZF operating instructions                                | 500.000 km /<br>310,000 miles /<br>4 years <sup>(2)</sup>            |
|   | Coaches   |   | 800.000 km /<br>500,000 miles /<br>6 years <sup>(2)</sup>            |
|   | Wheel heads RL 55                               |   | Lifetime lubrication<br>(Refer to ZF operating instructions)         |
| 12G - Grease-lubricated wheel bearings with individual mounts at the front and rear axles | Line operation<br>Suburban operation<br>Coaches |   | 500.000 km /<br>310,000 miles /<br>2 years <sup>(2)</sup>            |
| 12G - General greasing points   | Line operation<br>Suburban operation<br>Coaches |   | Relubrication<br>80.000 km / 50,000 miles /<br>1 year <sup>(2)</sup> |
| 12P - General greasing points<br>Lubrication by means of centralized lubricating system   | Line operation<br>Suburban operation<br>Coaches | Regular check of all lubricating points for escaping fresh grease | Observe provisions of centralized lubricating system manufacturer    |

**4.2 Electric axles for buses (AVE 130)**

| Lubricant class                 | Operating conditions | Oil level check                    | Oil change intervals                                   |
|---------------------------------|----------------------|------------------------------------|--|
| ZF EcoFluid X SAE 80W-90<br>12L | Line operation       | Refer to ZF operating instructions | 60.000 km /<br>40,000 miles /<br>1 year <sup>(2)</sup> |





| Grease class   | Operating conditions | Check                              | Change interval   |
|--|----------------------|------------------------------------|---|
| 12H - Compact bearing (hub unit) in the wheel heads at the central and rear axles of the AVE 130 | Line operation       | Refer to ZF operating instructions | 500.000 km /<br>310,000 miles /<br>4 years <sup>(2)</sup> |

**4.3 Axles for trucks (APL 9000, APL 90)**

| Lubricant class  | Operating conditions | Oil level check             | Oil change intervals   |
|--|----------------------|-----------------------------|--|
| ZF EcoFluid X SAE 80W-90<br>12B, 12E, 12M, 12N<br>ZF EcoFluid XL SAE 75W-85<br>12F | -                    | With each engine-oil change | Initial oil change after<br>10 000 km / 7,000 miles<br>Subsequent oil change interval<br>120.000 km / 80,000 miles /<br>2 years <sup>(2)</sup> |

| Grease class   | Operating conditions | Check  | Change interval  |
|--|----------------------|--|--|
| 12H - Compact bearing (hub unit) in the wheel heads at the front axles of the APL 90 | -                    | Refer to specifications provided by the vehicle manufacturer | 500.000 km /<br>310,000 miles /<br>4 years <sup>(2)</sup>                          |
| 12G - General greasing points  | -                    |  | Relubrication according to the specifications provided by the vehicle manufacturer |

**5. Low temperatures limits**

| Viscosity grades                     | Use at outside temperatures   |
|--------------------------------------|---|
| SAE 75W-85, 75W-90, 75W-110, 75W-140 | - 40°C  |
| SAE 80W-90, 80W-110, 80W-140         | - 26°C  |
| SAE 85W-90, 85W-110, 85W-140         | - 12°C  |
| SAE 90                               | - 5°C   |

## 6. Explanation of footnotes and comments

### Footnotes

- (1) **Refer to the following pages for approved commercial products. Pay due attention to the note on oil level check, oil and grease change intervals, breather maintenance (ZF breather), and low temperature limits on Pages 2 and 3.**  
When changing the oil type within one lubricant class or to another lubricant class, mixing of the new oil with the residual oil in the axle is permitted.
- (2) Change required, depending on what occurs first.
- (3) The denomination „hot country use“ is derived from the area where the vehicle is used, rather than from a country in the sense of a state.  
Regarding ZF units, we say "Hot country use" when:  
1. the monthly average temperature exceeds 25°C in more than 2 months within a year  
2. or if temperatures rise above 40°C on more than 7 days in a year  
Examples for possible countries or regions are:  
- America: Mexico, USA (South and deserts)  
- Whole Africa (without South Africa)  
- Middle East: Bangladesh, India (regional), Pakistan, Afghanistan, Sri Lanka  
- Near East: Iran, Iraq, Kuwait, Bahrain, Oman, Qatar, Saudi-Arabia, United Arab Emirates, Yemen, Israel, Lebanon, Syria, Egypt, Jordan  
- Australia (deserts)  
- China (deserts)
- (4) Change the filter insert on the ZF diaphragm breather at every oil change (see ZF Service Information 13/16d or 11/17)

### Comments

Additives of any kind added **later** to the oil change the oil in a manner that is unpredictable, and they are therefore not permitted. No liability of any kind will be accepted by ZF for any damage resulting from the use of such additives.

**7. Lubricant classes and approved trade products****Lubricant class 12B**

Transmission oil

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140

**Manufacturer (12B)**CASTROL LTD, LONDON/GB  
CASTROL LTD, LONDON/GB**Trade name (12B)**CASTROL TRANSMAX AXLE LONG LIFE 75W-90  
CASTROL SAF-XO 75W-90**ZF approval number**ZF002142  
ZF006097



**Manufacturer (12E)**

TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR

**Trade name (12E)**

TRAXIUM AXLE 7 80W-90  
TRAXIUM AXLE 7 80W-90  
TRANSELF TYPE B 80W-90  
TRANSELF TYPE B 80W-90  
DYNATRANS HD 80W 90  
DYNATRANS HD 85W-140  
TRAXIUM AXLE 7 80W-90  
TRAXIUM AXLE 7 80W-90

**ZF approval number**

ZF008224  
ZF008225  
ZF008227  
ZF008231  
ZF008232  
ZF008328  
ZF011486  
ZF011518

**Lubricant class 12F**

Transmission oil

Viscosity grade: SAE 75W-85

**Manufacturer (12F)**

SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (12F)**

SHELL SPIRAX S6 AZME 75W-85  
ZF ECOFLUID XL SAE 75W-85

**ZF approval number**

ZF004894  
ZF003441



**Lubricant class 12G**

Multi-purpose grease according to the specification / requirement:

- DIN 51825 classification at least KP2K-20
- ISO 6743-9 classification at least ISO-L-XBCEB2
- Consistency class: NLGI 2
- Base oil: API Group 1 / 2 / 3 / 4
- Thickener type: Li
- EP additives
- Temperature operation limits: min. -20°C to +120°C

**Note:**

All trade products which satisfy the above specifications may be used. There will be no product listing.

**Lubricant class 12H**

Lubricating grease for long-term lubrication of compact bearings (Hub Unit)

**Manufacturer (12H)**

FUCHS PETROLUB AG, MANNHEIM/DE

FUCHS PETROLUB AG, MANNHEIM/DE

ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (12H)**

RENOLIT LX-PEP 2

RENOLIT LX-NHU 2

ZF RENOLIT LX-PEP 2

**Lubricant class 12L**

Transmission oil

Viscosity grades: SAE 75W-90 / 80W-90

**Manufacturer (12L)**

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE  
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE  
 BAYWA AG MÜNCHEN, MÜNCHEN/DE  
 BELGIN MADENI YAĞLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAĞLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH  
 BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES  
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES  
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR  
 DE OLIEBRON BV, ZWIJNDRECHT/NL  
 DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS  
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT  
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE  
 FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 HUILES BERLIET S.A., SAINT-PIERRE/FR  
 HUILES BERLIET S.A., SAINT-PIERRE/FR  
 IGOL FRANCE, AMIENS/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOOVE LUBRICANTS, GRAVESEND/GB  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTUL SA, AUBERVILLIERS/FR  
 OEL-BRACK AG, HUNZENSCHWIL/CH  
 OPET FUCHS MADENI YAG. SAN. VE TIC. A.S., IZMIR/TR  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN S.A., GDANSK/PL  
 OY TEBOIL AB, HELSINKI/FI  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PAZ LUBRICANTS & CHEMICALS, HAIFA/IL  
 PETROGAL S.A., LISBOA/PT  
 PETROGAL S.A., LISBOA/PT  
 PETROL OFISI A.S., ISTANBUL/TR  
 PETROL OFISI A.S., ISTANBUL/TR  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY

**Trade name (12L)**

ADDINOL GETRIEBEÖL GX 80W-90 ML  
 ADDINOL GETRIEBEÖL GH 75 W 90 SL  
 AVISTA PEER EVO GL4/GL5 SAE 80W-90  
 AVISTA PEER EVO PRIME GL4/GL5 SAE 80W-90  
 TECTROL MULTIGEAR PLUS 8090  
 BELGIN LUBEX MITRAS AX SYN ULTRA 75W-90  
 BELGIN LUBEX MITRAS AX EP MD 80W-90  
 EVOLCA SGP 75W90  
 EVOLCA BGP 80W90  
 CASTROL TRANSMAX UNIVERSAL LL 80W-90  
 CASTROL TRANSMAX UNIVERSAL LL 75W-90  
 CASTROL TRANSMAX AXLE LONG DRAIN 80W-90  
 CEPSA TRANSMISIONES EP FE+LD 75W-90  
 MAN SUPER AXLE 3343 75W-90  
 CHAMPION OEM SPECIFIC 75W90 GL 5  
 DELO GEAR TDL 80W-90  
 DELO SYN-TDL 75W-90  
 DELO GEAR CGA SAE 80W-90  
 GEAR TXS 75W90  
 TOR UNI GEAR LD 75W90  
 AVENO TDL ULTIMATE 75W-90  
 MULTHIPO 75W-90 SINT  
 MULTHIPO 80W-90 F PLUS  
 ENI ROTRA LSX 75W-90  
 ENI ROTRA MP 75W-90  
 MOBILUBE 1 SHC 75W-90  
 MOBILUBE HD-A PLUS 80W-90  
 MOBILUBE S 80W-90  
 MOBIL DELVAC 1 GEAR OIL 75W-90  
 MOBIL DELVAC ULTRA TOTAL DRIVELINE 75W-90  
 AVIATICON FINKOGEAR PREMIUM 75W-90  
 AVIATICON FINKOGEAR SUPER 80W-90  
 FUCHS TITAN CYTRAC HSY SAE 75W-90  
 FUCHS TITAN GEAR HYP LD SAE 80W-90  
 FUCHS TITAN SUPERGEAR MC SAE 80W-90  
 FUCHS TITAN CYTRAC RR SAE 75W-90  
 GEARWAY S5 75W-90  
 GEARWAY G5 80W-90  
 FUCHS TITAN CYTRAC TD SAE 75W-90  
 PENTOSIN GEAR PRO SAE 75W-90  
 PENTOSIN GEAR ULTRA SAE 75W-90  
 OEST SYNTH GETRIEBEÖL SAE 75W-90  
 OEST GETRIEBEÖL FE SAE 80W-90 GL4/5  
 GULF GEAR TDL 80W-90  
 GULF SYNGEAR 75W-90  
 GULF GEAR LD 80W-90  
 LONGEVIA TC ECO 80W-90  
 LONGEVIA TCX ECO 75W-90  
 SYNTHEGEAR 75W-90  
 INA HIPENOL TDL 80W-90  
 INA HIPENOL SHD 75W-90  
 Q8 TRANS XGS 75W-90  
 Q8 GEAR OIL XG SAE 80W-90  
 ROXOR SUPER DUTY SYNTH 75W-90  
 ROXOR TOPGEAR 80W-90  
 LIEBHERR SYNTOGEAR PLUS 75W-90  
 LIQUI MOLY HYPOID GETRIEBEÖL TDL SAE 80W-90  
 LIQUI MOLY VOLLSYN. HYPOID GETR.ÖL TRUCK (75W-90)  
 LUKOIL TRANSMISSION LD 80W-90  
 LUKOIL TRANSMISSION SYNTH BSX 75W-90  
 MEGOL HYPOID-GETRIEBEOEL TDL 80W-90  
 MEGOL GETRIEBEOEL TRUCK-SYNTH SAE 75W-90  
 MOL HYKOMOL TDL 75W90  
 COMMA PRO EP 75W-90 TDL  
 YORK 896 75W90  
 MOTOREX YORK PENTA TL SAE 75W/90  
 MOTOREX YORK GEAR ZX TP SAE 80W/90  
 MOTOREX YORK UNIVERSAL CT SAE 80W/90  
 MOTOREX YORK UNISYNT ZX SAE 75W90  
 MOTUL GEAR SYNTH TDL 75W-90  
 MIDLAND SENSOGEAR 75W-90  
 OTOKAR SPECTRA DO Z 80W-90  
 PLATINUM GEAR LL 80W-90  
 ORLEN OIL GEAR LL 80W-90  
 TITANIS SUPER GL-5 80W-90  
 TEBOIL HYPOID SAE 75W-90  
 TEBOIL HYPOID SAE 80W-90  
 GLOBAL MULTIGEAR TS SAE 75W/90  
 PAZ GEAR LD 80W-90  
 GALP TRANSVEX TDL 75W90  
 GALP TRANSOIL HP XT 80W90  
 MAXIGEAR TECH EP-X 80W-90  
 MAXIGEAR D 75W-90  
 TUTELA TRANSMISSION FE-AXLE (SAE 75W-90)

**ZF approval number**

ZF000672  
 ZF002260  
 ZF004780  
 ZF004797  
 ZF001160  
 ZF005978  
 ZF006035  
 ZF004734  
 ZF004735  
 ZF002143  
 ZF002144  
 ZF004885  
 ZF000086  
 ZF000965  
 ZF003554  
 ZF002273  
 ZF003353  
 ZF003442  
 ZF000829  
 ZF000964  
 ZF010792  
 ZF000653  
 ZF001456  
 ZF000860  
 ZF003364  
 ZF000041  
 ZF000042  
 ZF000776  
 ZF001681  
 ZF003699  
 ZF002249  
 ZF002299  
 ZF000642  
 ZF000645  
 ZF000722  
 ZF000732  
 ZF001030  
 ZF001036  
 ZF003341  
 ZF004930  
 ZF004931  
 ZF000491  
 ZF000565  
 ZF000780  
 ZF000863  
 ZF001950  
 ZF008379  
 ZF008392  
 ZF008361  
 ZF000432  
 ZF000977  
 ZF000179  
 ZF002103  
 ZF009457  
 ZF010966  
 ZF006012  
 ZF001323  
 ZF001347  
 ZF010982  
 ZF010972  
 ZF001183  
 ZF001291  
 ZF003365  
 ZF003420  
 ZF000550  
 ZF006007  
 ZF006006  
 ZF006108  
 ZF008207  
 ZF000825  
 ZF003680  
 ZF004755  
 ZF000311  
 ZF011188  
 ZF001098  
 ZF001969  
 ZF001970  
 ZF001224  
 ZF003437  
 ZF000980  
 ZF001981  
 ZF001665  
 ZF001591  
 ZF001199

**Manufacturer (12L)**

PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 PHI OIL GMBH, ST. GEORGEN/AT  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 ROLF LUBRICANTS GMBH, LEVERKUSEN/DE  
 SASOL ENERGY, JOHANNESBURG/ZA  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TEDEX S.A., WARSZAWA/PL  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 VALVOLINE EUROPE, DORDRECHT/NL  
 VALVOLINE EUROPE, DORDRECHT/NL  
 VALVOLINE EUROPE, DORDRECHT/NL  
 WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE  
 WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE  
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE  
 YACCO SAS, ST PIERRE LES ELBEUF/FR  
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE  
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (12L)**

TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)  
 PETRONAS TUTELA AXLE 700 EHD 75W-90  
 UNIGEAR GOLD 75W90  
 UNIGEAR GOLD 75W90  
 RAVENOL GEAR SUPER SYNTH GSS SAE 75W-90  
 RAVENOL GEAR TRANS SYNTH GTS SAE 75W-90  
 REPSOL CARTAGO FE LD 75W90  
 REPSOL CARTAGO LD 80W90  
 REPSOL NAVIGATOR FE LL 75W-90  
 REPSOL NAVIGATOR LL 80W-90  
 ROLF TRANSMISSION S9 AGE 75W-90  
 SYN GEAR DIFFERENTIAL OIL 75W-90  
 SHELL SPIRAX S3 AD 80W-90  
 SHELL SPIRAX S3 AM 80W-90  
 SHELL SPIRAX S6 AXME 75W-90  
 SHELL SPIRAX S6 ADME 75W- 90  
 SINOPEC GREATWALL VT 75W/90  
 SINOPEC MULTIPURPOSE-II GEAR OIL 80W-90  
 SRS GETRIEBEFLUID SML 80W-90  
 SRS GETRIEBEFLUID SXL 75W-90  
 SRS WIOLIN HGAV 80W-90  
 TEDEX SUPER GEAR OIL (TDL) SAE 80W-90  
 TRAXIUM DUAL 8 FE 80W-90  
 TRAXIUM DUAL 9 FE 75W-90  
 TRAXIUM AXLE 9 80W-90  
 TRAXIUM AXLE 9 80W-90  
 TRAXIUM AXLE 9 80W-90  
 TRANSELF SYN FE 75W-90  
 VALVOLINE HEAVY DUTY TDL PRO 75W-90  
 VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LD  
 NESTE PRO AXLE TDL 75W-90  
 HOYER GEAR F-FP 75W-90  
 HOYER GEAR M-FS 80W-90  
 WOLF OFFICIALTECH 75W90 GL 5  
 BVX 1000 75W-90  
 DIVINOL MULTI-AXLE 80W90  
 ZF ECOFLUID X SAE 80W-90

**ZF approval number**

ZF001738  
 ZF003639  
 ZF001203  
 ZF003606  
 ZF006037  
 ZF006038  
 ZF000451  
 ZF001141  
 ZF008268  
 ZF008269  
 ZF003626  
 ZF000702  
 ZF001237  
 ZF001292  
 ZF001262  
 ZF003334  
 ZF000527  
 ZF003332  
 ZF000447  
 ZF001655  
 ZF010330  
 ZF001342  
 ZF004817  
 ZF006074  
 ZF008229  
 ZF008230  
 ZF008393  
 ZF001283  
 ZF001837  
 ZF003631  
 ZF011993  
 ZF011992  
 ZF003525  
 ZF009462  
 ZF001684  
 ZF001266

**Lubricant class 12M**

Transmission oil

Viscosity grades: SAE 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 / 90

**Manufacturer (12M)**

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE  
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE  
 BAYWA AG MÜNCHEN, MÜNCHEN/DE  
 BELGIN MADENI YAĞLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAĞLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FINKE MINERALÖLWERK GMBH, 27374 VISSLHÖVEDE/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 HUILES BERLIET S.A., SAINT-PIERRE/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 LIQUI MOLY GMBH, ULM/DE  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 OPET FUCHS MADENI YAĞ. SAN. VE TIC. A.S., IZMIR/TR  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN S.A., GDANSK/PL  
 OY TEBOIL AB, HELSINKI/FI  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PAZ LUBRICANTS & CHEMICALS, HAIFA/IL  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETROGAL S.A., LISBOA/PT  
 PETROGAL S.A., LISBOA/PT  
 PETROL OFISI A.S., ISTANBUL/TR  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TEDEX S.A., WARSZAWA/PL  
 TALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TALENERGIES LUBRIFIANTS, NANTERRE/FR

**Trade name (12M)**

ADDINOL GETRIEBEÖL GX 80W-90 ML  
 AVISTA PEER EVO GL4/GL5 SAE 80W-90  
 AVISTA PEER EVO PRIME GL4/GL5 SAE 80W-90  
 TECTROL MULTIGEAR PLUS 8090  
 BELGIN LUBEX MITRAS AX EP MD 80W-90  
 BELGIN LUBEX MITRAS AX EP EXTRA 80W-90  
 EVOLCA BGP 80W90  
 CASTROL TRANSMAX UNIVERSAL LL 80W-90  
 CASTROL TRANSMAX AXLE LONG DRAIN 80W-90  
 MULTIGEAR PREMIUM EP SAE 85W-140  
 MULTIGEAR EP-5 SAE 80W-90  
 DELO GEAR EP-5 SAE 85W-140  
 DELO GEAR TDL 80W-90  
 DELO GEAR EP-5 SAE 80W-90  
 DELO GEAR CGA SAE 80W-90  
 MULTHIPO 80W-90 F PLUS  
 MULTHIPO 80W-140 F PLUS  
 MOBILUBE HD-A PLUS 80W-90  
 MOBILUBE S 80W-90  
 MOBIL DELVAC 1 GEAR OIL 80W-140  
 MOBIL DELVAC MODERN AXLE OIL 80W-90 V1  
 MOBIL DELVAC MODERN AXLE OIL 85W-140 V1  
 MOBIL DELVAC MODERN AXLE OIL 80W-90 V1  
 MOBIL DELVAC MODERN AXLE OIL 85W-140 V1  
 MOBIL DELVAC MODERN AXLE OIL 85W-140 V1  
 AVIATICON FINKOGEAR SUPER 80W-90  
 FUCHS TITAN GEAR HYP LD SAE 80W-90  
 FUCHS TITAN SUPERGEAR MC SAE 80W-90  
 GEARWAY G5 80W-90  
 PENTOSIN GETRIEBEÖL O-226 80W-90  
 FUCHS TITAN SUPERGEAR SAE 85W-110  
 TITAN SUPERGEAR MC SAE 80W-140  
 OEST GETRIEBEÖL FE SAE 80W-90 GL4/5  
 GULF GEAR TDL 80W-90  
 GULF GEAR LD 80W-90  
 LONGEVIA TC ECO 80W-90  
 INA HIPENOL TDL 80W-90  
 Q8 AXLE OIL XG SAE 80W-140  
 Q8 GEAR OIL XG SAE 80W-90  
 Q8 SYNTHETIC GEAR OIL SAE 80W-140  
 ROXOR TOPGEAR 80W-90  
 LIQUI MOLY HYPOID GETRIEBEÖL TDL SAE 80W-90  
 LUKOIL TRANSMISSION LD 80W-90  
 MEGOL HYPOID-GETRIEBEÖL TDL 80W-90  
 MOTOREX\_YORK UNIVERSAL CT SAE 80W/90  
 MOTOREX YORK GEAR ZX TP SAE 80W/140  
 MOTOREX YORK GEAR ZX TP SAE 80W/90  
 OTOKAR SPECTRA DO Z 80W-90  
 PLATINUM GEAR LL 80W-90  
 ORLEN OIL GEAR LL 80W-90  
 TITANIS SUPER GL-5 80W-90  
 TEBOIL HYPOID SAE 80W-90  
 TEBOIL HYPOID SAE 80W-140  
 GLOBAL GEAR SA SAE 85W-140  
 PAZ GEAR LD 80W-90  
 TRAXON 80W-90  
 TRAXON 85W-140  
 TRAXON XL SYNTHETIC BLEND 80W-140  
 TRAXON 80W-90  
 TRAXON 80W-140  
 GALP TRANSVEX TDL 85W140  
 GALP TRANSOIL HP XT 80W90  
 MAXIGEAR TECH EP-X 80W-90  
 REPSOL CARTAGO LD 80W90  
 REPSOL CARTAGO LD 85W140  
 REPSOL NAVIGATOR LL 80W-90  
 REPSOL NAVIGATOR LL 85W-140  
 SHELL SPIRAX S3 AD 80W-90  
 SHELL SPIRAX S3 AM 80W-90  
 SHELL SPIRAX HD 80W- 90  
 SHELL SPIRAX HD 80W- 90  
 SHELL SPIRAX HD 80W- 90  
 SHELL SPIRAX S4 AX (80W-90)  
 SHELL SPIRAX S4 AX (80W-90)  
 SHELL SPIRAX S4 AX (80W-90)  
 SHELL SPIRAX S4 AX (80W-90)  
 SHELL SPIRAX S4 AX (80W-90)  
 SINOPEC MULTIPURPOSE-II GEAR OIL 80W-90  
 SRS GETRIEBEFÜLLUNG SML 80W-90  
 SRS WOLIN HGAV 80W-90  
 TEDEX SUPER GEAR OIL (TDL) SAE 80W-90  
 TRAXIUM DUAL 8 FE 80W-90  
 TRAXIUM AXLE 9 80W-90  
 TRAXIUM AXLE 9 80W-90  
 TRAXIUM AXLE 8 FE 80W-140

**ZF approval number**

ZF000672  
 ZF004780  
 ZF004797  
 ZF001160  
 ZF006035  
 ZF011981  
 ZF004735  
 ZF002143  
 ZF004885  
 ZF001196  
 ZF002137  
 ZF002254  
 ZF002273  
 ZF002270  
 ZF003442  
 ZF001456  
 ZF001749  
 ZF000042  
 ZF000776  
 ZF001682  
 ZF008180  
 ZF008179  
 ZF008311  
 ZF008309  
 ZF008310  
 ZF002299  
 ZF000645  
 ZF000722  
 ZF001036  
 ZF001195  
 ZF004921  
 ZF006028  
 ZF000565  
 ZF000780  
 ZF001950  
 ZF008379  
 ZF000432  
 ZF002102  
 ZF002103  
 ZF002105  
 ZF010966  
 ZF001323  
 ZF010982  
 ZF001183  
 ZF006108  
 ZF007146  
 ZF006006  
 ZF004755  
 ZF000311  
 ZF011188  
 ZF001098  
 ZF001970  
 ZF002039  
 ZF001831  
 ZF003437  
 ZF000764  
 ZF000778  
 ZF002287  
 ZF003389  
 ZF003390  
 ZF000777  
 ZF001981  
 ZF001665  
 ZF001141  
 ZF001142  
 ZF008269  
 ZF008270  
 ZF001237  
 ZF001292  
 ZF001352  
 ZF001353  
 ZF001354  
 ZF001619  
 ZF001620  
 ZF001621  
 ZF008191  
 ZF003332  
 ZF000447  
 ZF010330  
 ZF001342  
 ZF004817  
 ZF008229  
 ZF008230  
 ZF008296

**Manufacturer (12M)**

VALVOLINE EUROPE, DORDRECHT/NL  
VALVOLINE GLOBAL PRODUCTS, LEXINGTON/US  
WILHELM HOYER B.V. & CO. KG, VISSLHÖVEDE/DE  
ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE  
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (12M)**

VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LD  
KUBOTA 80W-90 GEAR LUBRICANT HD  
HOYER GEAR M-FS 80W-90  
DIVINOL MULTI-AXLE 80W90  
ZF ECOFLUID X SAE 80W-90

**ZF approval number**

ZF001837  
ZF008218  
ZF011992  
ZF001684  
ZF001266

**Lubricant class 12N**

Transmission oil

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140

**Manufacturer (12N)**

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH  
 CASTROL LTD, LONDON/GB  
 CEPESA COMERCIAL PETRÓLEO S.A.U., MADRID/ES  
 CEPESA COMERCIAL PETRÓLEO S.A.U., MADRID/ES  
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR  
 DE OLIEBRON BV, ZWIJNDRECHT/NL  
 DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUSEVAC/RS  
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT  
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FINKE MINERALÖLWERK GMBH, 27374 VISSLHÖVEDE/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 IGOL FRANCE, AMIENS/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOOVE LUBRICANTS, GRAVESEND/GB  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTUL SA, AUBERVILLIERS/FR  
 OEL-BRACK AG, HUNZENSCHWIL/CH  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PETROGAL S.A., LISBOA/PT  
 PETROL OFISI A.S., ISTANBUL/TR  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 PHI OIL GMBH, ST. GEORGEN/AT  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A. MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A. MADRID/ES  
 ROLF LUBRICANTS GMBH, LEVERKUSEN/DE  
 SASOL ENERGY, JOHANNESBURG/ZA  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 VALVOLINE EUROPE, DORDRECHT/NL  
 VALVOLINE EUROPE, DORDRECHT/NL  
 VALVOLINE EUROPE, DORDRECHT/NL  
 WILHELM HOYER B.V. & CO. KG, VISSLHÖVEDE/DE  
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE  
 YACCO SAS, ST PIERRE LES ELBEUF/FR

**Trade name (12N)**

ADDINOL GETRIEBEÖL GH 75 W 90 SL  
 EMGARD HP 75W-90  
 BELGIN LUBEX MITRAS AX SYN ULTRA 75W-90  
 EVOLCA SGP 75W90  
 CASTROL TRANSMAX UNIVERSAL LL 75W-90  
 CEPESA TRANSMISIONES EP FE+LD 75W-90  
 MAN SUPER AXLE 3343 75W-90  
 CHAMPION OEM SPECIFIC 75W90 GL 5  
 DELO SYN-GEAR XS 75W-140  
 DELO SYN-TDL 75W-90  
 GEAR TXS 75W90  
 TOR UNI GEAR LD 75W90  
 AVENO TDL ULTIMATE 75W-90  
 MULTHIPO 75W-90 SINT  
 ENI ROTRA LSX 75W-90  
 ENI ROTRA MP 75W-90  
 MOBILUBE 1 SHC 75W-90  
 MOBIL DELVAC 1 GEAR OIL 75W-90  
 MOBIL DELVAC ULTRA TOTAL DRIVELINE 75W-90  
 AVIATICON FINKOGEAR PREMIUM 75W-90  
 FUCHS TITAN CYTRAC HSY SAE 75W-90  
 FUCHS TITAN CYTRAC RR SAE 75W-90  
 GEARWAY S5 75W-90  
 FUCHS TITAN CYTRAC TD SAE 75W-90  
 PENTOSIN GEAR PRO SAE 75W-90  
 PENTOSIN GEAR ULTRA SAE 75W-90  
 OEST SYNTH GETRIEBEÖL SAE 75W-90  
 GULF SYNGEAR 75W-90  
 LONGEVIA TCX ECO 75W-90  
 SYNTHEGEAR 75W-90  
 INA HIPENOL SHD 75W-90  
 Q8 TRANS XGS 75W-90  
 Q8 TRANS XGR 75W-140  
 ROXOR SUPER DUTY SYNTH 75W-140  
 ROXOR SUPER DUTY SYNTH 75W-90  
 LIEBHERR SYNTOGear PLUS 75W-90  
 LIQUI MOLY VOLLSYN. HYPOID GETR.ÖL TRUCK (75W-90)  
 LUKOIL TRANSMISSION SYNTH BSX 75W-90  
 MEGOL GETRIEBEÖL TRUCK-SYNTH SAE 75W-90  
 MOL HYKOMOL TDL 75W90  
 COMMA PRO EP 75W-90 TDL  
 YORK 896 75W90  
 MOTOREX YORK UNISYNT ZX SAE 75W90  
 MOTOREX YORK PENTA TL SAE 75W/90  
 MOTUL GEAR SYNTH TDL 75W-90  
 MIDLAND SENSOGear 75W-90  
 TEBOIL HYPOID SAE 75W-90  
 GLOBAL MULTIGEAR TS SAE 75W/90  
 GALP TRANSVEX TDL 75W90  
 MAXIGEAR D 75W-90  
 TUTELA TRANSMISSION X-ROAD (75W-140)  
 TUTELA TRANSMISSION FE-AXLE (SAE 75W-90)  
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)  
 PETRONAS TUTELA AXLE 700 EHD 75W-90  
 PETRONAS TUTELA AXLE 700 EHD 75W-140  
 UNIGEAR GOLD 75W90  
 UNIGEAR GOLD 75W90  
 RAVENOL GEAR SUPER SYNTH GSS SAE 75W-90  
 RAVENOL GEAR TRANS SYNTH GTS SAE 75W-90  
 RAVENOL TDG SAE 75W-110  
 REPSOL CARTAGO FE LD 75W90  
 REPSOL NAVIGATOR FE LL 75W-90  
 ROLF TRANSMISSION S9 AGE 75W-90  
 SYN GEAR DIFFERENTIAL OIL 75W-90  
 SHELL SPIRAX S 75W-140  
 SHELL SPIRAX S6 ADME 75W- 90  
 SHELL SPIRAX S6 AXME 75W-140  
 SHELL SPIRAX S6 AXME 75W-90  
 SINOPEC GREATWALL VT 75W/90  
 SRS GETRIEBEFLUID SXL 75W-90  
 TRAXIUM DUAL 9 FE 75W-90  
 TRANSSELF SYN FE 75W-90  
 VALVOLINE HEAVY DUTY TDL PRO 75W-90  
 VALVOLINE HEAVY DUTY AXLE OIL PRO 75W-140  
 NESTE PRO AXLE TDL 75W-90  
 HOYER GEAR F-FP 75W-90  
 WOLF OFFICIALTECH 75W90 GL 5  
 BVX 1000 75W-90

**ZF approval number**

ZF002260  
 ZF001716  
 ZF005978  
 ZF004734  
 ZF002144  
 ZF000086  
 ZF000965  
 ZF003554  
 ZF002274  
 ZF003353  
 ZF000829  
 ZF000964  
 ZF010792  
 ZF000653  
 ZF000860  
 ZF003364  
 ZF000041  
 ZF001681  
 ZF003699  
 ZF002249  
 ZF000642  
 ZF000732  
 ZF001030  
 ZF003341  
 ZF004930  
 ZF004931  
 ZF000491  
 ZF000863  
 ZF008392  
 ZF008361  
 ZF000977  
 ZF000179  
 ZF000853  
 ZF010967  
 ZF009457  
 ZF006012  
 ZF001347  
 ZF010972  
 ZF001291  
 ZF003365  
 ZF003420  
 ZF000550  
 ZF008207  
 ZF006007  
 ZF000825  
 ZF003680  
 ZF001969  
 ZF001224  
 ZF000980  
 ZF001591  
 ZF000839  
 ZF001199  
 ZF001738  
 ZF003639  
 ZF003685  
 ZF001203  
 ZF003606  
 ZF006037  
 ZF006038  
 ZF008351  
 ZF000451  
 ZF008268  
 ZF003626  
 ZF000702  
 ZF001380  
 ZF003334  
 ZF004860  
 ZF001262  
 ZF000527  
 ZF001655  
 ZF006074  
 ZF008393  
 ZF001283  
 ZF001874  
 ZF003631  
 ZF011993  
 ZF003525  
 ZF009462

**Lubricant class 12P**

Lubricating grease according to specification / requirement:

- DIN 51502 classification at least GP 0/00/000 G -30
- ISO 6743-9 classification at least ISO-L-X C C E/F/H/I B 0/00/000
- Consistency class: NLGI 0 / 00 / 000
- Base oil: API Group 1 / 2 / 3 / 4
- Thickener type: Li / Ca
- EP additives
- Release of centralized lubricating system manufacturer for the used system must be available

**Note:**

- **All trade products can be used which comply with the specifications / requirements mentioned above.**
- **The system or vehicle operator ensures that a regular and reliable supply of the greasing points is guaranteed.**
- **The system or vehicle operator ensures that greasing supply is never insufficient at any lubricating point (automatic error message via system and regular visual inspection).**
- **The system manufacturer's provisions with regard to checking for escaping fresh grease and the change intervals must be observed.**