



Delo[®] Syn-TDL SAE 75W-90

Premium performance fully synthetic Total Driveline Lubricant

Product description

Delo Syn-TDL SAE 75W-90 is a premium performance fully synthetic Total Driveline Lubricant with extended drain capability, suitable for use in both API GL 4 and API GL 5 applications, and offers good thermal stability in higher temperature operations.

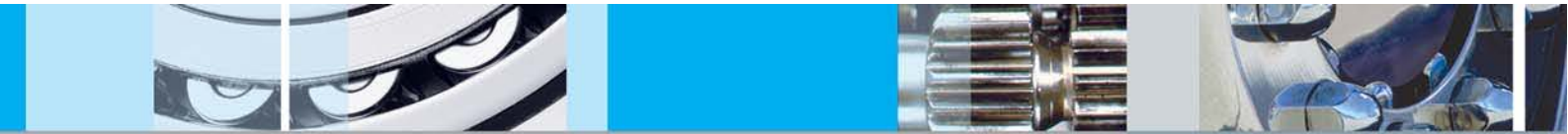
Delo Syn-TDL SAE 75W-90 is formulated with fully synthetic base oils in combination with an advanced high performance additive system.

Customer benefits

- Specially tuned friction characteristics make the product suitable for use in many synchronized manual transmissions as well as in final drives, allowing the advantage of product rationalisation
- Offers significantly longer service than conventional mineral gear oils in many applications – up to twice as long in transmissions and three times as long in drive axles
- Long-drain capability, reducing the need for overhauls
- High performance additives provide excellent EP and antiwear performance, protecting components against scuffing and wear
- Excellent low-temperature fluidity, providing component protection by allowing fast oil circulation during cold weather start-up
- High Viscosity Index and excellent shear stability, ensuring that the viscosity and film thickness will be sufficient for effective lubrication - even at high operating temperatures - throughout the fluid's lifetime.
- Excellent oxidation stability, preventing oil thickening during service and formation of harmful varnish and deposits
- Compatible with a wide variety of elastomer materials, preventing loss of fluid due to seal deterioration
- Rust and corrosion protection of ferrous and yellow metal gears and bearings
- Good resistance to foaming

Product highlights:

- Suitable for many synchronized manual transmissions and final drives
- Long-drain capability
- Offers extended service capabilities
- Provides reliable EP protection and wear resistance
- Offers rapid oil circulation during cold start-up
- High Viscosity Index and good shear stability



Applications

Delo Syn-TDL SAE 75W-90 is designed for use in automotive manual transmissions which require a fluid with API GL-4 or GL-5 performance, and for hypoid drive axles where an EP oil meeting API GL-5 or MT-1 is required. It is approved against standard SAE J2360 (former MIL-PRF-2105E).

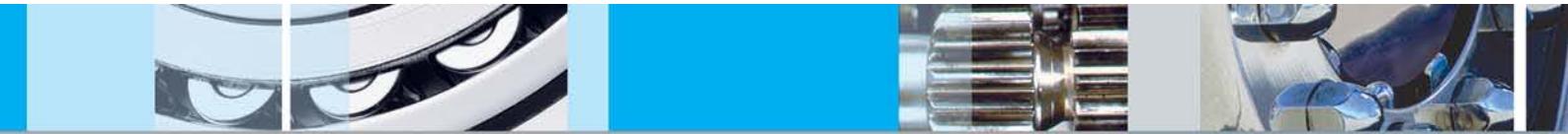
The thermal stability makes Delo Syn-TDL SAE 75W-90 suitable for use in applications with higher operating temperatures than is possible when using mineral gear oils. The special characteristics of the synthetic base oils lead to a reduction in the operating temperature, further extending the service capability in arduous operating conditions, or improving fuel economy in normal service conditions. It is capable of significantly longer service intervals than conventional mineral gear oils: up to 2 times longer in transmissions and more than 3 times longer in drive axles. (The precise service interval varies according to application and service severity – refer to the manufacturers' literature for further details).

Delo Syn-TDL SAE 75W-90 is not recommended for use in ZF transmissions fitted with interarders (this includes some models from constructors such as DAF and MAN). For these exceptions, use an approved fluid such as Delo Syn-MTF XZ 75W-80.

Approvals, performance and recommendations

Approvals

| | |
|----------------|---|
| Detroit Diesel | DFS Axle Gear Oil Specification 93K219.01 |
| MAN | 341 Type Z2 ^[15] |
| MAN | 342 Type S1 ^[15] |
| Mercedes-Benz | MB-Approval 235.8 |
| Volvo | 97312 ^[13] |
| ZF | TE-ML 02B ^[4] |
| ZF | TE-ML 05A ^[4] |
| ZF | TE-ML 12L ^[4] |
| ZF | TE-ML 12N ^[4] |
| ZF | TE-ML 16F ^[4] |
| ZF | TE-ML 17B ^[4] |
| ZF | TE-ML 19C ^[4] |
| ZF | TE-ML 21A ^[4] |



Performance

| | |
|--------|--|
| API | GL-4 |
| API | GL-5 |
| API | MT-1 |
| Bosch | TE-ML 08 ^[12] |
| DAF | Gearbox oil for Eaton gearboxes ^[5] |
| DAF | Gearbox oil for ZF gearboxes ^{[1] *} |
| DAF | Rear axle without hub reduction ^[6] |
| DAF | Rear axle with hub reduction ^[7] |
| NATO | 0-226 |
| Scania | STO 1:0 ^{[3] *} |
| ZF | TE-ML 07A ^[9] |
| ZF | TE-ML 12B ^[10] |

Recommendations

| | |
|-----|-----------------------------|
| MAN | 341 Type E3 ^[14] |
| MAN | 3343 Type S ^[8] |
| ZF | TE-ML 05B ^[11] |
| ZF | TE-ML 21B ^[11] |

* An existing approval is in place under the former product name Multigear S SAE 75W-90.

^[1] ZF gearboxes without interarder, standard changing interval.

^[2] Approval number: PRI GL 0620.

^[3] Approved for use in gearboxes; also permitted in some lightly-loaded long-haul axle applications (trucks - operation types 0 and 1; busses - operation type 1). Other axle applications require higher viscosity fluids.

^[4] ZF registration number: ZF003353.

^[5] Eaton gearbox applied in vehicle series LF45/55, 65/75/85 CF, CF 65/75/85; extended changing interval.

^[6] Except for type V200/V400 (requires an SAE 85W-140 oil). Extended changing interval

^[7] Except for type 1356 (requires special product). Standard changing interval.

^[8] Formerly approved. MAN 3343 Type S is now obsolete and has been replaced by 341 Type E3 (now obsolete) and 341 Type Z2 (manual transmissions), and 342 S1 (axles and transfer cases).

^[9] Products meeting the necessary performance requirements for these standards are approved for use by ZF, but there is no product listing.

^[10] ZF has transferred this approval from TE-ML 12B to a new class, TE-ML 12N, which is a higher performance level.

^[11] In April 2017, ZF combined class TE-ML 05B with class TE-ML 05A, and class TE-ML 21B with class TE-ML 21A.

^[12] List formerly administered by ZF. Products meeting the necessary performance requirements are approved for use, but there is no product listing.

^[13] Volvo approval number: 039.

^[14] The product meets all of the requirements, but MAN made this specification obsolete at the end of 2016.

^[15] MAN approval number: TUC 3419/97.

Typical key properties

| Delo® Syn-TDL SAE 75W-90 (Formerly: Multigear S SAE 75W-90) | | |
|--|--------------|--------|
| SAE Grade | | 75W-90 |
| Product Code | | 510471 |
| Density, 15°C, kg/l | ASTM D4052 | 0.868 |
| Flash Point COC, °C | ASTM D92 | 202 |
| Pour Point, °C | ASTM D5950 | -54 |
| Viscosity, Kinematic, 100°C, mm ² /s | ASTM D445 | 14.7 |
| Viscosity, Kinematic, 40°C, mm ² /s | ASTM D445 | 98 |
| Viscosity Index | ASTM D2270 | 157 |
| Phosphorus, %w | X-ray/ICP/AA | 0.163 |
| Sulphur, %w | X-ray/ICP | 2.06 |

1908

ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit: www.CaltexDelo.com.

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:
Chevron Lubricants
– Asia Pacific