

# Geartex® LS

# High performance limited slip axle lubricants

### Product description

Geartex LS are high performance automotive gear lubricants formulated for use in limited slip differentials, and conform to API service designation GL-5.

Geartex LS is available in SAE 80W-90, SAE 85W-90 and SAE 85W-140 grades, and is formulated with a mineral oil base in combination with an effective additive package, formulated to contribute to reliable limited slip differential performance and protection.

#### Customer benefits

- High performance friction modifier additive promotes smooth, noise free operation in limited slip differentials
- Robust EP formulation helps prevent component scuffing and wear
- Low temperature fluidity aids rapid lubricant circulation and wear protection during cold starts
- Reliable shear stability promotes consistent viscosity and system protection throughout fluid lifetime

# Product highlights

- · Promotes smooth, noise free operation
- · Aids protection against component scuffing and wear
- · Offers reliable wear protection during cold starts
- · Contributes protection throughout fluid lifetime

Selected specification standards include:

API Z

# **Applications**

- · Geartex LS is specifically designed for use in automotive limited slip differential axles. The special friction modifier additive included in the formulation is approved by ZF for use in their limited slip systems
- · Geartex LS may also be used in equipment requiring a standard GL-5 gear lubricant: hypoid drive axles, steering systems, non-synchronized transmissions and transaxles.
- · The friction characteristics of Geartex LS make it unsuitable for use in synchronized manual transmissions and transaxles, and it should not be used in these applications

- Operating temperatures of above +100°C will lead to a significant reduction in the fluid service life. Peak operating temperatures should not exceed +120°C
- · Geartex LS is not recommended for use in wet brake systems. These applications generally require products with a higher degree of friction modification, and may also generate higher temperatures than Geartex LS can withstand. Use Textran TDH Premium in these applications

# Approvals, performance and recommendations

| Approvals<br>Viscosity grade |           | SAE 80W-90       | SAE 85W-90       | SAE 85W-140      |
|------------------------------|-----------|------------------|------------------|------------------|
| ZF                           | TE-ML 05C | X <sup>[1]</sup> | X <sup>[2]</sup> | X [3]            |
| ZF                           | TE-ML 12C | X [1]            | X <sup>[2]</sup> | X <sup>[3]</sup> |
| ZF                           | TE-ML 16E | _                | X <sup>[2]</sup> | X <sup>[3]</sup> |
| ZF                           | TE-ML 21C | X <sup>[1]</sup> | X <sup>[2]</sup> | X <sup>[3]</sup> |

<sup>&</sup>lt;sup>[1]</sup> ZF Registration number: ZF000809

<sup>[3]</sup> ZF Registration number: ZF001686

| Viscosity (          |       | AE 80W-90 | SAE 85W-90 | SAE 85W-140 |
|----------------------|-------|-----------|------------|-------------|
| API GL-5             |       | Χ         | Χ          | Χ           |
| Recomme<br>Viscosity |       | AE 80W-90 | SAE 85W-90 | SAE 85W-140 |
| ZF TE-MI             | L 16E | Χ         | _          | _           |

<sup>[2]</sup> ZF Registration number: ZF000810

| Typical test data                                                          |              |            |            |             |  |  |  |  |
|----------------------------------------------------------------------------|--------------|------------|------------|-------------|--|--|--|--|
| Test                                                                       | Test methods | Results    |            |             |  |  |  |  |
| Viscosity Grade                                                            |              | SAE 80W-90 | SAE 85W-90 | SAE 85W-140 |  |  |  |  |
| Shelf Life: 12 months from date of filling indicated on the product label. |              |            |            |             |  |  |  |  |
| Density, 15 °C, kg/l                                                       | ASTM D4053   | 0.895      | 0.898      | 0.9087      |  |  |  |  |
| Flash Point COC, °C                                                        | ASTM D92     | 214        | 218        | 222         |  |  |  |  |
| Pour Point, °C                                                             | ASTM D5950   | -42        | -34        | -24         |  |  |  |  |
| Viscosity, Kinematic, 100 °C, mm <sup>2</sup> /s                           | ASTM D445    | 14.7       | 16.7       | 24.9        |  |  |  |  |
| Viscosity, Kinematic, 40 °C, mm <sup>2/</sup> s                            | ASTM D445    | 135        | 170        | 318         |  |  |  |  |
| Viscosity Index                                                            | ASTM D2270   | 110        | 103        | 100         |  |  |  |  |
| Viscosity, Brookfield, -12°C, mPa.s                                        | ASTM D2983   | _          | 12,000     | 42,000      |  |  |  |  |
| Viscosity, Brookfield, -26°C, mPa.s                                        | ASTM D2983   | 70,000     | _          | _           |  |  |  |  |

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.

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