



Shell Spirax S3 ALS 80W-90

High performance, GL-5 axle oil for limited slip differentials

Shell Spirax S3 ALS 80W-90 oil is blended for use in a wide variety of automotive axle units with limited slip differentials including many ZF units.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- Comprehensive components**
 Specially selected additives impart good anti-wear, anti-rust characteristics, oxidation and thermal stability as well as the required coefficient of friction to meet requirements of limited slip differentials.
- OEM approved performance**
 Approved by ZF for use in differential and axle units.
- Increased protection**
 Improved protection with MIL-L-2105D performance capability compared to Shell Spirax S2 ALS 80W-90.
- High quality base oils**
 Maintains low temperature flow in the designed temperature range, resists oxidation and maintains oil film between gears.

Automotive drivelines

Suitable for heavy duty vehicles, including construction machines or buses, and passenger cars which are fitted with limited slip differentials. May be used in other moderate to heavily loaded gear sets that will allow use of a friction modified, hypoid gear oil.

Specifically suitable for ZF units including Liebherr where a limited slip fluid is required.

Specifications, Approvals & Recommendations

- ZF TE-ML : 05C, 12C, 21C
- API Service Classification : GL-5 Limited Slip
- MIL-L-2105D : Meets

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Main Applications



Typical Physical Characteristics

Properties	Method	Shell Spirax S3 ALS 80W-90
SAE Viscosity Grade		80W-90
Kinematic Viscosity @100°C	mm ² /s	ISO 3104 14.7
Viscosity Index	ISO 2909	100
Pour Point	°C	ISO 3016 -27

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Health, Safety & Environment

Health and Safety

Shell Spirax S3 ALS 80W-90 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from

<http://www.epc.shell.com/>

- **Protect the Environment**

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**

Advice on applications not covered here may be obtained from your Shell representative.