Technical Data Sheet

Shell **Tellus** ***S3 Z 46***

- *Improved Oil Life And Protection*
- *Maintain System Efficiency*
- *Industrial Applications*

Industrial GTL blend Hydraulic Fluid

Shell Tellus S3 Z hydraulic fluids are synthetic blend oils with special high viscosity index Gas-to-Liquid (GTL) base oil technology; enabling improved* performance and anti-wear (with zinc) properties. They have enhanced* performance and protection characteristics along with a wider operating temperature window, designed for manufacturing as well as off-highway applications.

*compared to conventional ISO HM certified fluids

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Improved Fluid Life- maintenance saving**

  Made with synthetic blend (with special high viscosity index GTL base oil) technology, Shell Tellus S3 Z fluids help achieve longer equipment maintenance intervals by demonstrating superior resistance to thermal and chemical degradation. As a result, harmful sludge formation is minimized, keeping systems clean and reliable. Enhanced stability in the presence of moisture reduces the risk of corrosion and rusting, particularly in moist and humid environments.

- **Outstanding Wear Protection**

  Shell Tellus S3 Z is formulated to meet stringent demands from hydraulic oils including new specifications such as Bosch Rexroth Fluid Rating RDE 90245 and enhanced extreme pressure performance in the FZG test (FLS 11 at ISO VG 32). It also demonstrates robust performance in the tough Denison T6H20C (dry and wet versions) and Eaton Vickers 35VQ25. Shell Tellus S3 Z fluids can help protect system components enabling them to a have a longer functioning life.

- **Maintaining System Efficiency**

  Shell Tellus S3 Z helps maintain and enhance the efficiency of hydraulic systems by demonstrating excellent filterability and high-performance water separation, air release and antifoam characteristics. It has been formulated to possess friction characteristics that help reduce harmful stick slip effects. High point of fill cleanliness (meeting and exceeding ISO 4406) or better helps provide longer filter life, reducing filter blocking due to contamination, leading to and enhancing equipment protection. Shell Tellus S3 Z fluids are designed for comprehensive foam control and quick air release to facilitate efficient hydraulic power transfer and minimize fluid and equipment impacts of cavitation induced oxidation that can shorten fluid life.

Main Applications

- **Industrial Hydraulic Systems**

  Shell Tellus S3 Z fluids are suitable for a wide range of hydraulic power applications found in manufacturing and industrial environments.

- **Mobile hydraulic fluid power transmission system**

  Shell Tellus S3 Z fluids can be used effectively in mobile hydraulic power applications such as excavators and cranes, except where significant ambient temperature variations are encountered.

- **Marine Hydraulic Systems**

  Suitable for marine applications where ISO HM category hydraulic fluids are recommended

Specifications, Approvals & Recommendations

- Denison HF-0, HF-1, HF-2
- Eaton E-FDGN-TB002-E
- Bosch RDE 90245
- ISO 11158 HM Fluid
- DIN 51524-2 HLP

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

Compatibility & Miscibility

- **Compatibility**

  Shell Tellus S3 Z fluids are suitable for use with most hydraulic pumps.

- **Fluid Compatibility**

  Shell Tellus S3 Z fluids are compatible with most other mineral and synthetic oil based hydraulic fluids. However mineral and synthetic oil hydraulic fluids should not be mixed with other fluid types (e.g. environmentally acceptable or fire-resistant fluids).

- **Seal & Paint Compatibility**

  Shell Tellus S3 Z fluids are compatible with seal materials and paints normally specified for use with mineral oils.

Typical Physical Characteristics

Properties			Method	Shell Tellus S3 Z 46
Viscosity Grade			ISO 3448	46
Kinematic Viscosity	@40°C	mm^2/s	ISO 3104	46
Kinematic Viscosity	@100°C	mm^2/s	ASTM D3104	7.1
Viscosity Index			ISO 2909	112
Flash Point (COC)		°C	EN ISO 2592	236
Pour Point		°C	ISO 3016	-36
Density	@15°C	kg/m^3	ISO 12185	857
Water Separation		minutes	ASTM D1401	20

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 & Safety**

  Shell Tellus S3 Z hydraulic fluid 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 Safety Data Sheet, which can be obtained from http://www.epc.shell.com

- **Protect the Environment**

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

Additional Information

- **Change over procedure**

  Shell Tellus S3 Z is based on synthesized hydrocarbon fluids and is compatible with petroleum mineral oil-based hydraulic lubricants - no special change-over procedure is necessary. However, to achieve the complete benefit of Shell Tellus S3 Z, it should not be mixed with other oils.

  It is also advisable to ensure that oil systems are clean and free from contamination.

- **Advice**

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