Technical Data Sheet

- Long life and improved efficiency
- Outstanding wear protection
- Zinc Free

Shell Tellus *Zinc Free S3 VX 68*

Premium Zinc Free Industrial Hydraulic Fluid for very wide temperature range

Shell Tellus Zinc Free S3 VX fluids are high performance lubricants that use the latest zinc-free technology, coupled with highly shear stable viscosity modifiers. They give excellent viscosity control and protection under severe mechanical, thermal and chemical stresses across a wide range of temperatures. They provide outstanding protection and performance in most mobile equipment and other applications subjected to a wide range of ambient or operating temperatures.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

Long fluid life helps with maintenance saving

Shell Tellus Zinc Free S3 VX fluids offer an improved capability to extend fluid maintenance intervals and hence reduce equipment downtime through:

- An extended ASTM D943 TOST lifetime, with an oxidative stability that is designed for upto 7500hrs TOST life;
- Excellent resistance to breakdown in the presence of water and heat;
- Highly shear stability modifiers to maintain viscosity control.
- These features provide extended maintenance capability without compromising protection or performance, even under severe or extended temperature operating conditions.

Outstanding wear protection

Advanced zinc-free anti-wear additives provide protection over a wide range of conditions, including low and severe duty, and high load operation. This protection has been demonstrated in tough industry standard hydraulic pump tests including Bosch Rexroth RFT-APU-CL (RDE 90245 for ISO 32,46,68), Parker Denison (T6H20C for ISO 32,46,68) and Danfoss Vickers E-FDGN-TB002-E (35VQ25 for ISO 32,46,68).

- The high viscosity index (VI) of Shell Tellus Zinc Free S3 VX fluids ensures viscosity is maintained over a wide temperature range and outstanding shear stability performance ensures critical oil film thickness is maintained within hydraulic systems highly stressed components. Protection is maintained even under high temperature and high load conditions.

Maintaining system efficiency

Wet and dry filterability coupled with excellent water separation; air release and anti-foam performance help ensure system cleanliness supporting hydraulic system efficiency.

Shell Tellus Zinc-Free S3 VX hydraulic fluids at point of filling meet the DIN 51524 specification and report a maximum value of 21/19/16 measured to ISO 4406 industry standard test method. Fluid cleanliness reduces the potential for filter blocking, providing enhanced filter life and improved equipment protection.

Low ecotoxicity

Shell Tellus Zinc Free S3 VX is proven to demonstrate a low ecotoxicity towards aquatic invertebrates, offering a lower environmental impact in comparison to many hydraulic fluids without low ecotoxicity test results.

- Low ecotoxicity performance of our finished fluid has been assessed across OECD and EPA methods: OECD 202 – Classified as “not harmful” to Daphnia magna and US EPA OPPTS 850.1035 - Classified as not harmful to marine mysid shrimp.

When an Environmentally Acceptable Lubricant is required, in accordance with US EPA, ISO 15380 or EEL (EU Ecolabel), we recommend our Shell PANOLIN range.

Main Applications

- **Mobile and industrial hydraulic applications where ISO HV type hydraulic fluids are recommended**

  Hydraulic and fluid power transmission systems in exposed environments which are subjected to wide variations in temperature. The very high viscosity index helps deliver responsive performance from cold start to full load conditions.

Specifications, Approvals & Recommendations

- DIN 51524-3 (HVLP oils)
- ISO 11158 (HV fluids)
- ASTM 6158 (HV mineral oils)
- GB11118.1-2011 L-HV High pressure and General
- Swedish Standard SS 15 54 34 AAV
- Bosch Rexroth Fluid Rating RDE 90245
- Parker Denison (HF-0, HF-1 and HF-2) ISO 32,46,68
- Danfoss Vickers E-FDGN-TB002-E

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

Compatibility & Miscibility

- **Compatibility**

  Suitable for use with most hydraulic pumps.

- **Fluid Compatibility**

  Compatible with most other mineral oil based hydraulic fluids. However, mineral oil hydraulic fluids should not be mixed with other fluid types (e.g. environmentally acceptable or fire-resistant fluids).

- **Seal & Paint Compatibility**

  Compatible with seal materials and paints normally specified for use with mineral oils.

Typical Physical Characteristics

Properties			Method	Shell Tellus Zinc Free S3 VX 68
ISO Viscosity Grade			ISO 3448	68
ISO Fluid Type			ISO 6743-4	HV
Kinematic Viscosity	@0°C	cSt	ASTM D445	751
Kinematic Viscosity	@40°C	cSt	ASTM D445	68.7
Kinematic Viscosity	@100°C	cSt	ASTM D445	10.9
Viscosity Index			ISO 2909	149
Density	@15°C	kg/m³	ISO 12185	871
Flash Point (COC)		°C	ISO 2592	224
Pour Point		°C	ISO 3016	-36

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**

  This product 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 https://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.