



# Shell Tellus Oils STX

## ***Ashless zinc free hydraulic oils for severe duty and extended temperature ranges***

Shell Tellus Oils STX are “top-tier” hydraulic oils based on latest ashless antiwear technology, selected high quality mineral base oils of API Group II category and a shear stable viscosity index improver to enhance and maintain excellent viscosity/temperature characteristics.

They are indicated for severe duty or where significant variation in oil temperature during service are encountered.

### **Applications**

- Hydraulic and fluid power transmission systems subjected to significant variations in temperature or where very low viscosity change with fluctuating temperature is required.

Certain critical hydraulic systems can only tolerate very small variations in viscosity with fluctuating temperature if efficiency and responsiveness are to be maintained. Hydraulic oils, such as Shell Tellus Oils STX, which exhibit multigrade viscosity characteristics may be used to particular advantage in these circumstances.

### **Performance Features and Benefits**

- **Extended operating temperature range**

The use of selected viscosity index improver and Group II base oils reduce the viscosity variation with temperature allowing the systems to operate in an extended oil temperature range with more consistent performances. Reasons for oil temperature modification could be different ones like: environment temperature variation, intermediate working condition or variable workload.

- **Maintained viscosimetric characteristics unchanged with time**

The high shear stability of the viscosity index improver used allows to retain the original viscosimetric characteristics preventing the oil to get

thinner and thinner at high temperature and therefore preventing the reduction of the max operating temperature and the system efficiency.

- **Outstanding anti-wear performance**

Latest ashless anti-wear technologies are incorporated to be effective throughout the range of operating conditions, including low and severe duty load conditions. Outstanding performance in a range of piston and vane pump tests have been obtained including the newest Denison T6H (the so called hybrid pump), the tough Denison T6C (dry and wet versions) and the demanding Vickers 35VQ25. Tellus STX help system components last longer.

- **Hydrolytic stability**

Tellus STX have excellent chemical stability in the presence of moisture, which ensures long oil life and reduces the risk of corrosion and rusting.

- **Superior filterability**

Tellus STX are suitable for ultra-fine filtration, an essential requirement in today's hydraulic systems. They are unaffected by the usual products of contamination, such as water and calcium, which are known to cause blockage of fine filters. Customers can use finer filters, therefore achieving all the benefits of having in use cleaner fluids.

- **Oxidation resistant**

Resist oxidation in the presence of air, water and copper. Thanks to the combination of additives and base oils used the Turbine Oil Stability Test (TOST) results are outstanding in terms of low acidity, low sludge formation, low copper loss; therefore

extending oil drain interval life and minimising maintenance costs.

- **Thermal stability**

Thermally stable in modern hydraulic systems working in extreme conditions of load and temperature. Tellus STX are highly resistant to degradation and sludge formation therefore improving system reliability and cleanliness.

- **Excellent air release and anti-foam properties**

Additives have been carefully selected to ensure quick air release without excessive foaming. Quick air release helps minimise cavitation and slow oxidation, maintaining system and fluid performance.

- **Good water separation**

Good water separation properties (demulsibility). Resists the formation of water-in-oil emulsions and prevents consequent hydraulic system and pump damage.

- **Reduced environmental impact**

The use of ashless anti-wear technology and low sulphur base oils reduce the impact on the environment due to usage of Tellus STX.

- **Cleanliness level**

Tellus Oils STX are manufactured with a Quality System assuring the fluid at the Shell plant filling lines meets the requirements of max ISO 4406 21/19/16 class. As recognized by DIN 51524 specification, the oil is exposed to various influences with transport and storage that could effect the cleanliness level.

## Specifications and Approvals

Tellus Oils STX have the following approvals:

CINCINNATI P-68 (ISO 32)  
CINCINNATI P-70 (ISO 46)  
CINCINNATI P-69 (ISO 68)  
DENISON HF-0  
DENISON HF-1  
DENISON HF-2  
Eaton (Vickers) M-2950 S  
Eaton (Vickers) I-286 S

Tellus Oils STX meet the requirements of:

Swedish Standard SS 15 54 34 AV (ISO VG 46 & 68)  
Swedish Standard SS 15 54 34 AM (ISO VG 32)  
ISO 11158 HV Type  
AFNOR NFE 48-603  
ASTM 6158-05 HV  
DIN 51524 Part 3 HVLP type  
GB 111181-1-94 HV

## Compatibility

Tellus STX are compatible with all components, pumps, seal and paints, normally considered to be used with mineral oils.

## Health & Safety

Guidance on Health and Safety are available on the appropriate Material Safety Data Sheet, which can be obtained from your Shell representative.

## Protect the environment

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

**Typical Physical Characteristics**

<b>Shell Tellus Oil STX</b>	<b>32</b>	<b>46</b>	<b>68</b>
ISO Oil Type	HV	HV	HV
Kinematic Viscosity @ -20°C mm <sup>2</sup> /s 40°C mm <sup>2</sup> /s 100°C mm <sup>2</sup> /s (ASTM D 445)	1000 32 6.5	1850 46 8.4	2900 68 11.4
Viscosity Index (ISO 2909)	162	162	162
Density @ 15°C kg/m <sup>3</sup> (ISO 12185)	870	875	880
Flash Point °C (Cleveland Open Cup) (ISO 2592)	220	225	230
Pour Point °C (IP 15)	-42	-42	-39

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

