

Shell Tellus Oils DO

Premium quality zinc free detergent hydraulic oils

Shell Tellus Oils DO are premium quality speciality detergent/dispersant anti-wear mineral hydraulic oils for systems where emulsifiable oils are preferred. They are based on a zinc free antiwear technology

Applications

- Industrial hydraulic systems
- Injection moulding machines
- Electronically controlled hydraulic equipment
- Mobile equipment
- Headstocks and hydraulic controls in automatic lathes (when a synthetic or semi-synthetic water-extendible metal working fluid is used)

Where low start up and high service temperatures are encountered the use of Shell Tellus Oil TD 46 is recommended.

Performance Features

- **Powerful cleaning properties**
Prevents the breakdown of hydraulic systems caused by sticky residues and deposits. The dirt is very finely dispersed and kept in suspension, even when the oil is contaminated with synthetic metalworking fluids.
- **Effective anti-corrosion performance**
An active anti-corrosion additive effectively protects hydraulic systems from corrosion.
- **Emulsification properties**
Water collected in the lubrication system, due to condensation or contamination with soluble cutting fluid, is emulsified to provide further protection.
- **Enhanced anti-friction properties**
Polar additives prevent stick-slip, a phenomenon which may occur when modern sealing materials are used in hydraulic systems.
- **Outstanding anti-wear and load-carrying properties**
Exceptional performance in hydraulic and geared systems, especially under high load and low speed boundary lubrication conditions as shown by the high Brugger load value DIN 51347-2.

- **Excellent filterability**
An essential property in modern hydraulic systems where the use of very fine filters has become standard practice. Shell Tellus Oils DO offer state of the art filterability performances in the range of detergent hydraulic fluids.
- **Excellent mechanical and oxidation stability**
In hydraulic systems operating under severe thermal stress, the oil's natural resistance to ageing is enhanced by special additives.
- **Low foaming tendency**
Quick air release without excessive foaming.
- **Reduced environmental impact**
The use of a zinc free technology helps the environment reducing the negative impact due to disposal of metal containing substances.
- **Cleanliness level**
Tellus Oils DO 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 DO meet the requirements of:

ISO 11158 HM
ASTM 6158-05 HM
GB 111181-1-94 HM

The ISO VG 46 and ISO VG 68 are approved by Mueller Weingarten

Seal & Paint Compatibility

Shell Tellus Oils DO are compatible with all seal materials and paints normally specified for use 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.

Advice

Advice on applications not covered in this leaflet may be obtained from your Shell Representative.

Typical Physical Characteristics

Shell Tellus	DO 10	DO 22	DO 32	DO 46	DO 68
ISO Viscosity Grade	10	22	32	46	68
Fluid Type (ISO Designation)			L-HM	L-HM	L-HM
Kinematic Viscosity @ 40°C mm ² /s (ASTM D445)	10	22	32	46	68
Kinematic Viscosity @ 100°C mm ² /s (ASTM D445)	2,4	4,3	5,6	7,0	8,9
Viscosity Index (ISO 2909)		99	108	107	103
Density @ 15°C (ISO 12185) kg/m ³	844	868	872	877	883
Flash Point , (ASTM D92) °C	147	189	210	223	228
Pour Point (ISO 3016) °C	-60	-27	-24	-24	-21
Steel Corrosion 24 hours at 60°C Degree of corrosion (ASTM D665b)	No rust	No rust	No rust	No rust	No rust
Copper Corrosion Degree of corrosion (ASTM D130)	1b	1a	1a	1a	1a
Air Release (ASTM D3427) min.	< 0,5	1,4	4,4	5,6	13,2
Foam (ASTM D892) ml	40/0-20/0-30/0	0/0-20/0-60/0	0/0-20/0-0/0	0/0-40/0-0/0	0/0-50/0-0/0
Demulsibility @ 54°C after 30 mins (ASTM D1401)	0-0-80	0-0-80	0-0-80	0-0-80	0-0-80
Brugger Test N/mm ² (DIN 51 347-2)				> 50	>50
FZG failure load stage (DIN 51354-2)				>12	>12

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

Viscosity - Temperature - Diagram

