



## PETROLEUM

### VKB Petroleum Hydraulic Oils HLP ZF

#### PRODUCT DESCRIPTION

**VKB petroleum Hydraulic Oils HLP ZF** are high-quality zinc free hydraulic oils, formulated from highly selected Group III hydro-treated base oils, with natural high viscosity index to meet the requirements of modern hydraulic systems using very high pressures, servo valves requiring highly efficient filtration such as proportional valves, and machine tools found in most hydraulic systems

#### Features.

- Anti-wear properties
- Good thermal stability
- Excellent filterability
- Excellent resistance to hydrolysis.
- Anti-foaming, and De-aeration properties.
- De-Emulsification properties
- Very low pour point.
- Guarantees longer components lifetime

#### VKB petroleum Hydraulic Oils HLP ZF Applications

- Modern, and Mobile hydraulic systems.
- Suitable for SACMI presses
- Hydraulic systems where sludge can be formed with daily processes.
- Hydraulic systems with high operating temperatures.
- Hydraulic systems with high loads that require lubrication, and anti-wear protection.
- Circulation lubrication in which low-power reduction gears, bearings, and rotary air-compressors.
- Presence of unavoidable mist through hydraulic system.

#### Performance level

Denison HF-0 HF-1 HF-2, GM LS-2, CINCINNATI MACHINE P-69, US Steel 126/ 127, SEB 181 222, Swedish standard SS 15 34 54 M DIN51 524 PART 2. SAE MS 1004

#### TYPICAL TECHNICAL DATA

| Property                 | Test       | Units              | ZF 32     | ZF 46     | ZF 68     |
|--------------------------|------------|--------------------|-----------|-----------|-----------|
| Nature                   | -          | -                  | Mineral   | Mineral   | Mineral   |
| Color                    | ASTMD1500  | -                  | Blonde    | Blonde    | Blonde    |
| Grade                    | -          | -                  | ISO 32    | ISO 46    | ISO 68    |
| Density @ 15° C          | ASTM D1298 | -                  | 0.88      | 0.90      | 0.905     |
| Viscosity @ 40° C        | ASTM D445  | mm <sup>2</sup> /s | 28.8-35.2 | 41.4-50.6 | 61.2-74.8 |
| Viscosity @ 100° C       | ASTM D445  | mm <sup>2</sup> /s | 5.6       | 7.1       | 9.2       |
| Viscosity Index          | ASTM D2270 | -                  | 120       | 120       | 120       |
| Flash Point              | ASTM D93   | ° C                | 222       | 223       | 223       |
| Copper Strip Test        | ASTM D130  | ° C                | 1B        | 1B        | 1B        |
| Filterability            | PL         | Indices            | 1.1       | 1.1       | 1.1       |
| VICKERS Test V104C       | -          | quotatio           | Pass      | Pass      | Pass      |
| VICKERS Test 35VQ25      | -          | quotatio           | Pass      | Pass      | Pass      |
| FZR gear failure (stage) | DIN51354-2 | Min                | 10        | 10        | 10        |