



**Product Data**

## **Hyspin HVI**

High viscosity index anti-wear hydraulic oils

### **Description**

The Castrol Hyspin™ HVI range of high viscosity index (VI) oils is based on a carefully selected ashless (zinc free) additive system designed to meet and exceed the most exacting performance standards.

### **Application**

Castrol Hyspin™ HVI oils are intended for severely stressed hydraulic systems requiring a high level of anti-wear performance and fine filtration. In addition, Castrol Hyspin™ HVI exhibits excellent corrosion protection as well as outstanding thermal and oxidative stability. Castrol Hyspin™ HVI has excellent hydrolytic stability and separates rapidly from water contamination. Castrol Hyspin™ HVI contains a shear stable additive system which helps to maintain the viscosity characteristics of the product over a wide temperature range, even during prolonged use, and imparts a very low pour point which enables the product to be used in cold environments. The Castrol Hyspin™ HVI range is fully compatible with elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g. Viton) polymers.

Applications include:

- Hydraulic packages operating over wide temperature ranges and or subjected to cold start conditions and high temperature continuous running where minimal viscosity change due to temperature is required.
- Examples include highly stressed hydraulic systems (HPUs) utilised in the oil and gas industry whether it be drilling, production or processing offshore and onshore.

Castrol Hyspin™ HVI is classified as follows:

- DIN 51502 classification – HVLP.
- ISO 6743/4 - Hydraulic Oils Type HV.

Hyspin HVI grades meet the requirements of:

- DIN 51524 Part 3.
- Cincinnati Lamb (Milacron) P 68-69-70.
- Denison (Parker Hannafin) HF-0.
- US Steel 126 & 127.
- Eaton I-286-S & M-2950-S.
- Frank Mohn.
- Bosch Rexroth RE07075/RE90220.

### **Advantages**

- High viscosity index and low pour point enables the product to be used over a wide temperature range. Good shear stability means no excessive loss in viscosity due to mechanical shearing.
- Excellent anti-wear performance provides extended wear protection for hydraulic pumps. Reduced down time due to unscheduled maintenance and savings from replacement part costs.
- Excellent water separation and hydrolytic stability means reduced down time through prolonged lubricant life and increased equipment reliability.
- Excellent thermal and oxidative stability provides reliable performance and extended oil life in severe applications. Minimal deposit formation gives a cleaner system and reduced frequency of filter changes.
- Excellent filterability characteristics (including in the presence of water) enables cost savings to be made due to increased filter life.

### **Typical Characteristics**

| Name                                      | Method                     | Units              | Hyspin<br>HVI 15 | Hyspin<br>HVI 22 | Hyspin<br>HVI 32 | Hyspin<br>HVI 46 | Hyspin<br>HVI 68 | Hyspin<br>HVI 100 | Hyspin<br>HVI 150 |
|-------------------------------------------|----------------------------|--------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
| ISO Viscosity Grade                       | -                          | -                  | 15               | 22               | 32               | 46               | 68               | 100               | 150               |
| Density @ 15°C / 59°F                     | ISO 12185 / ASTM D4052     | g/ml               | 880              | 880              | 880              | 880              | 880              | 890               | 890               |
| Kinematic Viscosity @ 40°C / 104°F        | ISO 3104 / ASTM D445       | mm²/s              | 15               | 22               | 32               | 46               | 68               | 100               | 150               |
| Kinematic Viscosity @ 100°C / 212°F       | ISO 3104 / ASTM D445       | mm²/s              | 3.8              | 4.8              | 6.3              | 8.1              | 10.8             | 13.2              | 17.7              |
| Viscosity Index                           | ISO 2909 / ASTM 2270       |                    | >150             | >150             | >150             | >150             | >140             | >130              | >125              |
| Pour Point                                | ISO 3016 / ASTM D97        | °C/°F              | -48/-54          | -42/-44          | -39/-38          | -36/-33          | -36/-33          | -33/-27           | -30/-22           |
| Flash Point - Closed Cup Method           | ISO 2719 / ASTM D93        | °C/°F              | 144/291          | 162/324          | 186/337          | 186/337          | 192/378          | 192/378           | 192/378           |
| Foam Sequence I - Tendency / Stability    | ISO 6247 / ASTM D892       | ml/ml              | 20/0             | 20/0             | 20/0             | 20/0             | 20/0             | 20/0              | 20/0              |
| Water Separation @ 54°C / 129°F (40/37/3) | ISO 6614 / ASTM D1401      | min                | 5                | 10               | 10               | 15               | 15               | -                 | -                 |
| Water Separation @ 82°C / 180°F (40/37/3) | ISO 6614 / ASTM D1401      | min                | -                | -                | -                | -                | -                | 20                | 20                |
| Air Release @ 50°C / 122°F                | ISO 9120 / ASTM D3427      | min                | 4                | 4                | 4                | 8                | 8                | 12                | 18                |
| FZG Gear Scuffing Test - A/8.3/90         | ISO 14635-1                | FLS                | -                | -                | 11               | 12               | 12               | 12                | 12                |
| Rust Test - Distilled Water (24 hrs)      | ISO 7120 / ASTM D665A      |                    | Pass             | Pass             | Pass             | Pass             | Pass             | Pass              | Pass              |
| Rust Test - Synthetic Seawater (24 hrs)   | ISO 7120 / ASTM D665B      |                    | Pass             | Pass             | Pass             | Pass             | Pass             | Pass              | Pass              |
| Shear Stability - KRL test (4hrs)         | DIN 51350-6 / CEC L45-A-99 | viscosity loss (%) | -                | -                | -                | 9.5              | -                | -                 | -                 |

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

Hyspin HVI

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The Technology Centre, Whitchurch Hill, Pangbourne, Reading, RG8 7QR, United Kingdom

+44 (0)203 915 7991

[www.castrol.com/globalbusiness](http://www.castrol.com/globalbusiness)