



Product Data

Hyspin AWH-M

High viscosity index anti-wear hydraulic oils

Description

The Castrol Hyspin™ AWH-M hydraulic oils are a range of shear stable high viscosity index lubricants.

Application

Hyspin AWH-M contains a shear stable additive system which helps 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 very cold environments. It exhibits very good corrosion and wear protection as well as good thermal and oxidative stability. In addition, Hyspin AWH-M is stable in the presence of water and separates water contamination rapidly upon standing.

Applications include:

Outdoor equipment which are likely to operate in wide temperature ranges, such as machinery subjected to cold start up conditions and high temperature continuous running. Examples include off-highway and marine applications.

Indoor manufacturing equipment that incorporates control systems requiring minimal viscosity change with temperature. Examples include precision machine tools.

The Hyspin AWH-M range is compatible with the most commonly used nitrile, silicone and fluorinated (e.g. Viton) seal materials

Hyspin AWH-M is classified as follows:

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

Hyspin AWH-M (for appropriate viscosity grade) is approved by:

- Parker Hannifin (Denison) HF0, HF1 & HF2
- Eaton E-FDGN-TB002-E

Hyspin AWH-M grades meet the requirements (for appropriate viscosity grade) of:

- DIN 51524 Part 3
- Cincinnati Lamb (Milacron) P 68-69-70
- US Steel 126 & 127

Advantages

Hyspin AWH-M has the following advantages when compared to conventional hydraulic oils (of the same class):-

- High viscosity index and low pour point enables the product to be used over a wide temperature range.
- Good shear stability which means no excessive loss in viscosity due to mechanical shearing.
- Provides excellent wear protection for hydraulic pumps, helping to reduce downtime caused by unscheduled maintenance.
- Excellent water separation and hydrolytic stability, measured by industry standard testing. This increases equipment reliability, helping to prolong the lubricant life and reduce downtime.
- Good filterability gives a cleaner system with less frequent filter changes.

Typical Characteristics

| Name | Method | Units | AWH-M 15 | AWH-M 32 | AWH-M 46 | AWH-M 68 | AWH-M 100 | AWH-M 150 |
|---------------------------------------------------------------------------|------------------------|--------------------|-------------|-------------|-------------|-------------|--------------|--------------|
| ISO Viscosity Grade | - | - | 15 | 32 | 46 | 68 | 100 | 150 |
| Density @ 15°C / 59°F | ISO 12185 / ASTM D4052 | kg/m ³ | 850 | 852 | 867 | 867 | 890 | 890 |
| Kinematic Viscosity @ 40°C / 104°F | ISO 3104 / ASTM D445 | mm ² /s | 15 | 32 | 46 | 68 | 100 | 150 |
| Kinematic Viscosity @ 100°C / 212°F | ISO 3104 / ASTM D445 | mm ² /s | 3.8 | 6.1 | 7.9 | 10.8 | 14.6 | 18.7 |
| Viscosity Index | ISO 2909 / ASTM D2270 | - | >140 | >140 | >140 | >140 | >140 | >130 |
| Pour Point | ISO 3016 / ASTM D97 | °C/°F | -48/-54 | -51/-60 | -45/-49 | -45/-49 | -42/-44 | -30/-22 |
| Flash Point - open cup method | ISO 2592 / ASTM D92 | °C/°F | 192/378 | 209/408 | 228/442 | 236/457 | 240/464 | 240/464 |
| Foam Sequence I - tendency / stability | ISO 6247 / ASTM D892 | ml/ml | 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 | - | - |
| Water Separation @ 82°C / 180°F (40/37/3) | ISO 6614 / ASTM D1401 | min | - | - | - | - | 10 | 10 |
| Air Release @ 50°C / 122°F | ISO 9120 / ASTM D3427 | min | 4 | 4 | 3 | 3 | 8 | 15 |
| FZG Gear Scuffing test - A/8.3/90 | ISO 14635-1 | Failure Load Stage | - | 11 | 12 | 12 | 12 | 12 |
| Rust test - distilled water (24 hrs) | ISO 7120 / ASTM D665A | - | Pass | Pass | Pass | Pass | Pass | Pass |
| Rust test - synthetic seawater (24 hrs) | ISO 7120 / ASTM D665B | - | Pass | Pass | Pass | Pass | Pass | Pass |
| KRL Tapered Roller Bearing Shear Stability Test (20h, 60°C, 5KN, 1450rpm) | CEC L-45-A-99 | viscosity loss (%) | 2.3 | 5.3 | 6.6 | 7.7 | 8.0 | 9.2 |
| Oxidation Stability - TOST | ISO 4263-1 / ASTM D943 | hours | | >5000 | >5000 | >5000 | | |

Subject to usual manufacturing tolerances. Data based on Group II base oils.

Hyspin AWH-M
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Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

<http://msdspds.castrol.com>