



## Hyspin AWH-M

High viscosity index anti-wear hydraulic oils

### Description

The Castrol Hyspin™ AWH-M (Superclean) hydraulic oil is a shear stable high viscosity index lubricant are based on the latest stabilised zinc additive technology and highly filtered during production.

### 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 grades meet the requirements (for appropriate viscosity grade) of:

- DIN 51524 Part 3
- Cincinnati Lamb (Milacron) P 68-69-70
- Parker Hannifin (Denison) HF0
- US Steel 126 & 127
- Eaton (formerly Vickers) I-286-S & M-2950-S

### 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.
- Industrial Superclean increasing the service life of hydraulic systems, with good in use filterability giving a cleaner system with less frequent filter changes.

## Typical Characteristics

Name	Method	Units	Hyspin AWH-M 32 Superclean	Hyspin AWH-M 46 Superclean
Appearance	Visual	-	Clear & Bright	Clear & Bright
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	880	880
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	32	46
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	6.41	8.32
Viscosity Index	ISO 2909 / ASTM D2270	-	>150	>150
Pour Point	ISO 3016 / ASTM D97	°C/°F	-45/-49	-42/-44
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	210/411	215/419
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C/°F	200/392	220/428
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	20/0	20/0
Water Separation @ 54°C / 129°F (40/37/3)	ISO 6614 / ASTM D1401	minutes	10	15
Air Release @ 50°C / 122°F	ISO 9120 / ASTM D3427	minutes	4	8
Rust test - distilled water (24 hrs)	ISO 7120 / ASTM D665A	-	Pass	Pass
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	-	Pass	Pass
FZG Gear Scuffing test - A/8.3/ 90	ISO 14635-1	Failure Load Stage	11	12
Shear Stability - KRL test (4hrs)	DIN 51350-6	viscosity loss (%)	9.9	12.6
Particle Count (at filling point)	ISO 4406	-	15/13/10	16/14/11

Subject to usual manufacturing tolerances.

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