



## Hyspin AWS Superclean Range

Anti-wear hydraulic oil

### Description

The Castrol Hyspin AWS™ Superclean hydraulic oil range is based upon highly refined mineral oil enhanced with a stabilised zinc additive system, filtered to ISO 4406 - 16/14/11 (similar to NAS 6).

### Application

Hyspin AWS Superclean has been specially formulated to provide good anti-wear and thermal stability performance using the very latest additive technology. The careful blend of additives with a high quality base stock ensures that Hyspin AWS Superclean has excellent hydrolytic and oxidative stability while exhibiting a minimal tendency to produce sludge and deposits. In addition, Hyspin AWS Superclean provides corrosion protection to ferrous and yellow metal components found within a hydraulic system.

This range is designed for use in industrial hydraulic systems which require anti-wear protection. It is also suitable for other duties in which lubricants of high oxidation stability and lubrication performance are required, such as lightly loaded gears, variable speed units and bearings.

The Hyspin AWS Superclean range is fully compatible with elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g. Viton) polymers.

Hyspin AWS Superclean is classified as follows:

DIN 51502 classification

HLP ISO 6743/4

Hydraulic Oils Type HM Hyspin AWS Superclean grades meet the requirements (for appropriate viscosity grade) of:

DIN 51524 Part 2

Cincinnati Lamb (Milacron) P 68-69-70

Denison (Parker Hannafin) HF-0

US Steel 126 & 127

Eaton (formerly Vickers) I-286-S & M-2950-S

Bosch Rexroth RE90220

### Advantages

- Good thermal and oxidative stability leads to longer operating life, reduction in lubricant costs and minimises deposit formation giving a cleaner system.
- Excellent anti-wear performance gives wear protection and reduces downtime from unscheduled maintenance.
- Good filterability characteristics (including in the presence of water) enables cost savings to be made from increased filter life and reduced maintenance.
- Excellent water separation and hydrolytic stability means reduced down time through prolonged lubricant life and increased equipment reliability.
- Increased cleanliness for systems with very fine tolerances, for improved equipment life and equipment accuracy.

## Typical Characteristics

Name	Method	Units	22	32	46	68	100	150
ISO Viscosity Grade	-	-	22	32	46	68	100	150
Density @ 15°C	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	870	880	880	880	890	890
Kinematic Viscosity @ 40°C	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	22	32	46	68	100	150
Kinematic Viscosity @ 100°C	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	4.3	5.3	6.7	8.6	11.1	14.5
Viscosity Index	ISO 2909 / ASTM D2270	-	>95	>95	>95	>95	>95	>95
Pour Point	ISO 3016 / ASTM D97	°C	-27	-27	-24	-21	-18	-15
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	10/0	10/0	10/0	10/0	10/0	10/0
Flash Point - open cup method	ISO 2592 / ASTM D92	°C	205	210	215	225	225	230
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C	170	200	200	220	220	220
Water Separation @ 54°C (40/37/3)	ISO 6614 / ASTM D1401	min	10	15	15	15	-	-
Water Separation @ 82°C (40/37/3)	ISO 6614 / ASTM D1401	min	-	-	-	-	15	20
Air Release @ 50°C	ISO 9120 / ASTM D3427	min	4	4	8	8	12	18
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
Fluid Cleanliness at point of fill	ISO 4406	-	16/14/11	16/14/11	16/14/11	16/14/11	16/14/11	16/14/11

Subject to usual manufacturing tolerances.

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