Product Data Sheet

Castrol Hyspin™ AWS Range

Anti-wear hydraulic oil

Description

The Castrol Hyspin™ AWS hydraulic oil range is based upon highly refined mineral oil enhanced with a stabilised zinc additive system.

Application

Hyspin AWS has been specially formulated to provide good anti-wear and thermal stability performance using proven additive technology. The careful blend of additives with a high quality base stock ensures that Hyspin AWS has excellent hydrolytic and oxidative stability while exhibiting a minimal tendency to produce sludge and deposits.

Hyspin AWS 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 antiwear protection such as lightly loaded gears, variable speed units and bearings. The Hyspin AWS range is compatible with the most commonly used nitrile, silicone and fluropolymer seal materials.

Hyspin AWS is classified as follows:
DIN 51502 classification - HLP
ISO 6743/4 - Hydraulic Oils Type HM

Hyspin AWS (for appropriate viscosity grade) is approved by:
Parker Hannifin (Denison) HF0, HF1 & HF2
Eaton E-FDGN-TB002-E

Hyspin AWS grades meet the requirements (for appropriate viscosity grade) of:
DIN 51524 Part 2
Fives Cincinnati P68, P69 & P70
ASTM D6158 HM
ISO 11158 HM
US Steel 126
GB 11118.1 L-HM (General and High Pressure)

Advantages

Hyspin AWS has the following advantages when compared to conventional hydraulic oils:

- Good thermal and oxidative stability. Oxidative stability reduces deposit formation, resulting in a cleaner
- system. This can extend the machinery’s operating life.
- Excellent anti-wear performance increases wear protection, which can help reduce downtime caused by
- 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, measured by industry standard testing. This increases
- equipment reliability, helping to prolong the lubricant’s life and reduce downtime.

Typical Characteristics

Name	Method	Units	AWS 10	AWS 15	AWS 22	AWS 32	AWS 46	AWS 68	AWS 100	AWS 150	AWS 220
ISO Viscosity Grade	-	-	10	15	22	32	46	68	100	150	220
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m³	890	870	870	880	880	880	890	890	890
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm²/s	10	15	22	32	46	68	100	150	220
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm²/s	2.4	3.2	4.3	5.3	6.7	8.6	11.1	14.5	18.7
Viscosity Index	ISO 2909 / ASTM D2270	-	-	-	>95	>95	>95	>95	>95	>95	>95
Pour Point	ISO 3016 / ASTM D97	°C/°F	-36/ -33	-33/ -27	-27/ -17	-27/ -17	-24/ -11	-21/ -6	-18/ 0	-15/ 5	-12/ 10
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	170/ 338	195/ 383	205/ 401	210/ 410	215/ 419	225/ 437	225/ 437	230/ 446	255/ 491
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C/°F	145/ 293	160/ 320	170/ 338	200/ 392	200/ 392	220/ 428	220/ 428	220/ 428	230/ 446
Water Separation @ 54°C / 129°F (40/37/3)	ISO 6614 / ASTM D1401	min	5	10	10	15	15	15	-	-	-
Water Separation @ 82°C / 180°F (40/37/3)	ISO 6614 / ASTM D1401	min	-	-	-	-	-	-	15	20	20
Air Release @ 50°C / 122°F	ISO 9120 / ASTM D3427	min	4	4	4	4	8	8	12	18	29
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	-	-	-	11	12	12	12	12	12
Rust test - distilled water (24 hrs)	ISO 7120 / ASTM D665A	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Stability - TOST	ISO 4263-1 / ASTM D943	hours	-	-	-	>2500	>2500	>2500	-	-	-

Subject to usual manufacturing tolerances.

Castrol Hyspin™ AWS Range
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