



Castrol Hyspin ZZ Range

Anti-wear Hydraulic Oil

Description

The Castrol Hyspin™ ZZ hydraulic oil range of lubricants is based on a carefully selected ashless (zinc free) additive system designed to meet and exceed the most exacting performance standards.

Application

The Hyspin ZZ range is designed for applications requiring anti-wear and superior oxidation performance and is particularly suitable for hydraulic systems using vane and piston pumps where elevated operating temperatures are encountered. They are formulated for use in severely stressed systems in which high levels of anti-wear performance and/or ultra fine filtration are required. They have been proven to be resistant to the effects of 'dieseling' in highly stressed systems such as plastic injection moulding and fatigue testing equipment where the application leads to rapid breakdown of more conventional products.

The 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 ZZ is classified as follows:

- DIN 51502 classification - HLP
- ISO 6743/4 - Hydraulic Oils Type HM

Hyspin ZZ 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 provides reliable performance and extended oil life in severe applications. Minimal deposit formation gives a cleaner system and reduced frequency of filter changes.
- 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 filterability characteristic (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.

Typical Characteristics

Name	Method	Units	ZZ 10	ZZ 22	ZZ 32	ZZ 46	ZZ 68	ZZ 100	ZZ 150
ISO Viscosity Grade	-	-	10	22	32	46	68	100	150

Name	Method	Units	ZZ 10	ZZ 22	ZZ 32	ZZ 46	ZZ 68	ZZ 100	ZZ 150
Density at 15°C	ISO 12185, ASTM D4052	g/ml	0.86	0.87	0.88	0.88	0.88	0.88	0.89
Kinematic Viscosity at 40°C	ISO 3104, ASTM D445	mm²/s	10	22	32	46	68	100	150
Kinematic Viscosity at 100°C	ISO 3104, ASTM D445	mm²/s	2.7	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/ °F	-33/ - 27	-27/ - 17	-27/ - 17	-27/ - 17	-24/ - 11	-21/ -6	-21/ -6
Flash Point, COC	ISO 2592, ASTM D92	°C/ °F	170/ 338	205/ 401	210/ 410	215/ 419	225/ 437	225/ 437	230/ 446
Flash Point, PMCC	ISO 2719, ASTM D93	°C/ °F	145/ 293	170/ 338	200/ 392	200/ 392	220/ 428	220/ 428	220/ 428
Foam Sequence 1 (tendency/stability)	ISO 6247, ASTM D892	mls	20/0	20/0	20/0	20/0	20/0	20/0	20/0
Demulsification at 54°C (to 40/37/3)	ISO 6614, ASTM D1401	mins	5	10	15	15	15	-	-
Demulsification at 82°C (to 40/37/3)	ISO 6614, ASTM D1401	mins	-	-	-	-	-	15	20
Air Release at 50°C	ISO 9120, ASTM D3427	mins	4	4	4	8	8	12	18
FZG Gear Test Failure Load Stage (A/8.3/90)	ISO 14635- 1, DIN 51354	-	-	-	11	12	12	12	12
Rust Test (24hrs distilled water)	ISO 7210, ASTM D665A	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust Test (24hrs synthetic sea water)	ISO 7210, ASTM D665B	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Resistance (TOST test)	ASTM D943	hrs	not tested	not tested	>2000	>2000	>2000	not tested	not tested

Subject to usual manufacturing tolerances.

Castrol Hyspin ZZ Range

19 Oct 2011

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

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

www.castrol.com/industrial