

**Product Data Sheet****Hyspin™ ZZ Superclean Range**

Anti-wear hydraulic oil

Description

The Castrol Hyspin™ ZZ Superclean hydraulic oil range of lubricants are formulated without zinc containing additives, based on a carefully selected additive system, designed to meet and exceed the most exacting performance standards. Filtered to ISO 4406 - 16/14/11 (equivalent to NAS 5), to ensure high cleanliness after storage and delivery.

Application

The Hyspin ZZ Superclean 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 Superclean is classified as follows:

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

Hyspin ZZ Superclean grades meet the requirements (for appropriate viscosity grade) of:

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

- 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	Hyspin ZZ 32	Hyspin ZZ 46	Hyspin ZZ 68
ISO Viscosity Grade	-	-	32	46	68
Appearance	Visual	-	Clear & Bright	Clear & Bright	Clear & Bright
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m³	872	875	877
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm²/s	32	46	68
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm²/s	5.3	6.7	8.6
Viscosity Index	ISO 2909 / ASTM D2270	-	>95	>95	>95
Pour Point	ISO 3016 / ASTM D97	°C/°F	-27/-17	-27/-17	-24/-11
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	210/410	215/419	225/437
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C/°F	200/392	200/392	220/428
Foam Sequence I tendency / stability	ISO 6247 / ASTM D892	ml/ml	20/0	20/0	20/0
Water Separation @ 54°C / 129°F (40/37/3)	SO 6614 / ASTM D1401	minutes	15	15	15
Air Release @ 50°C / 122°F	ISO 9120 / ASTM D3427	minutes	4	8	8
Rust Test (24 hrs Distilled Water)	ISO 7120 / ASTM D665A	-	Pass	Pass	Pass
Rust Test (24 hrs Synthetic Sea Water)	ISO 7120 / ASTM D665B	-	Pass	Pass	Pass
Copper Corrosion, 3hrs @ 100°C / 212°F	ISO 2160 / ASTM D130	Rating	1A	1A	1A
FZG Gear Scuffing test A/8.3/90	ISO 14635-1	Failure Load Stage	12	12	12
Oxidation Stability - TOST	ISO 4263-1 / ASTM D943	hours	>3000	>3000	>3000
Cleanliness Class (at the filling point)	ISO 4406	Rating	16/14/11	16/14/11	16/14/11

Subject to usual manufacturing tolerances.

Hyspin™ ZZ Superclean Range
09 Aug 2021
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, to the extent that it is permissible by law to exclude warranties and representations, 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. Refer to the MSDS, available from our website for further information. No responsibility is taken by either Castrol Australia , 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 Australia Pty Limited - ABN 87 008 459 407 – 717 Bourke Street, Docklands Vic 3008
Technical Advice Line: 1300 557 998 Customer Service: 1300 722 088