

PRODUCT & TECHNICAL DATA

HYSPIN AWH-M RANGE Anti-wear hydraulic oils

DESCRIPTION

Hyspin AWH-M is a range of mineral oil based, anti-wear hydraulic fluids with high viscosity index.

APPLICATIONS

Hyspin AWH-M grades are suitable for use in marine hydraulic power systems such as winches, deck cranes, steering gears, hatch cover and hydraulic valve systems.

Hyspin AWH-M grades may also be used in certain marine gearboxes and for turbocharger lubrication.

FEATURES/BENEFITS

Hyspin AWH-M oils are high viscosity index (VI) multigrade hydraulic fluids. This allows a single grade of oil to be used in marine hydraulic systems which operate in different climate zones. A particular feature of Hyspin AWH-M grades is the use of VI improvers with a very high resistance to shear.

Hyspin AWH-M grades contain a highly effective zinc based anti-wear additive, as demonstrated by the four ball wear, vane pump wear and FZG gear test results.

To minimise the effects of water contamination Hyspin AWH-M grades have excellent water separability as measured by the severe ASTM D 1401 test.

Hyspin AWH-M grades also contain a highly effective corrosion inhibitor as demonstrated by the excellent result in the IP135B, (steel in sea water) corrosion test.

Hyspin AWH-M grades fully meet the air release and anti foam requirements of the major hydraulic fluid specifications. The oils also have excellent resistance to oxidation.

With the exception of silver plated components Hyspin AWH-M grades are fully compatible with all commonly used system metals and are compatible with most seal materials including Nitrile, Buna-N, Viton, EP & Silicone rubbers.

Hyspin AWH-M grades exceed the requirements on the DIN 51524 Pt.3 and Dennison HF-0 specifications. They also meet the requirement of the Vickers vane pump test. (ASTM D2882).

APPROVALS STATUS

Approved by, or meets the specification requirements of, major hydraulic pump, valve and motor manufacturers. A 52 cSt. grade is approved for Framo initial fill.

CARE AND HANDLING

When commissioning a hydraulic system it is important that the system is free from any water, rust, and any other deleterious material such as corrosion protectives. It is recommended that the system is thoroughly flushed before filling with the operating charge.

Equipment manufacturers' recommendations with respect to filtration and oil change intervals should be followed. To minimise the risk of contamination it is recommended that all hydraulic oils should be filtered into the system.

PACKAGING AND STORAGE

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.



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TECHNICAL DATA

TYPICAL CHARACTERISTICS	UNIT	TEST METHOD	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Hyspin AWH-M			15	32	46	68	100	150
ISO Grade			15	32	46	68	100	150
Relative density @ 15°C	g/ml	ISO 12185 / ASTM D4052	0.88	0.87	0.88	0.88	0.88	0.89
Kinematic Viscosity @ 40°C	cSt	ISO 3104 / ASTM D445	15.0	32.0	46.0	68.0	100.0	150.0
Kinematic Viscosity @ 100°C	cSt	ISO 3104 / ASTM D445	3.8	6.2	8.1	10.8	13.2	17.7
Viscosity index		ISO 2909 / ASTM D2270	>150	>150	>150	>140	>130	>130
Shear stability (250 cycles)								
Viscosity decrease @ 40°C	%	DIN 51382	1.0	1.0	2.0	3.5	5.0	6.0
Viscosity decrease @ 100°C	%	DIN 51382	1.0	1.0	2.0	4.0	5.5	6.5
Flash Point, PMCC	°C	ISO 2719 / ASTM D93	160	200	>200	>200	>200	>200
Pour point	°C	ISO 3016 / ASTM D97	-48	-39	-36	-36	-33	-30
Rust prevention		ISO 135B	No rust	No rust	No rust	No rust	No rust	No rust
Water separability @ 54°C	min	ISO 6614 / ASTM D1401	5	10	15	15	-	-
Water separability @ 82°C	min	ISO 6614 / ASTM D1401	-	-	-	-	20	20
Denision filterability ratio (wet/dry)	-	TP-02100	1.5	1.5	1.5	1.5	1.5	1.5
Four ball wear, 1hr, 30kg, 1460rpm	mm	IP 239	0.33	0.32	0.3	0.3	0.3	0.3
FZG, Gear test (A8.3/90)	-	ISO 14635-1 / DIN 51354	-	11	12	12	12	12
Vane pump test								
Total ring and vane weight loss	-	ASTM D2882	50	50	50	50	50	50
Seal compatibility index	-	IP 278	15	10	9	8	6	4
Partial count	-	ISO 4406	15/12	15/12	15/12	15/12	15/12	15/12
Air release @ 50°C	min	ISO 9120 / ASTM D3427	4	4	8	8	12	24

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

GENERAL ADVICE

Further information on all Castrol Marine lubricants is available from any Castrol Marine office or from:

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