

## Energol SHF-HV Range

### Premium High VI Hydraulic Oils

#### Description

The Energol SHF-HV hydraulic oil range of premium high viscosity index lubricants are based on the latest stabilised zinc additive technology.

#### Application

Energol SHF-HV contains a shear stable VI improver which helps maintain the viscosity characteristics of the product over a wide temperature range even during prolonged use. The VI Improver also imparts a very low pour point which enables the product to be used in very cold environments. Energol SHF-HV exhibits excellent corrosion and wear protection as well as outstanding thermal and oxidative stability. In addition, Energol SHF-HV has excellent hydrolytic stability.

Energol SHF-HV is suitable for use in marine hydraulic power systems such as winches, deck cranes, steering gears, hatch cover and hydraulic valve systems etc. Energol SHF-HV series may also be used in certain marine gearboxes and for turbocharger lubrication.

The Energol SHF-HV range is fully compatible with the elastomers materials commonly used for static and dynamic seals, such as nitrile, silicone and fluropolymers.

Energol SHF-HV is classified as follows:

DIN classification - HVLP.

ISO 6743/4 - Hydraulic Oils Type HV.

Energol SHF-HV grades meet the requirements of:

DIN 51524 Part 3.

Cincinnati Milacron (P 68-69-70).

Denison HF-0 & HF-2.

US Steel 126 & 127.

Eaton (formally Vickers) I-286-S & M-2950-S.

#### Main Performance Features

- High viscosity index and low pour point enables the product to be used over a wide temperature range.
- Good shear stability means no excessive loss in viscosity due to mechanical shearing.
- Excellent anti-wear performance provides extended wear protection for hydraulic pumps.
- Reduced down time due to unscheduled maintenance and savings from reduced replacement part costs.
- Low deposit formation and longer oil life provides an overall reduction in lubricant costs and used oil disposal costs.
- Excellent water separation and hydrolytic stability means reduced down time through prolonged lubricant life and increased equipment reliability.
- Good filterability gives a cleaner system with less frequent filter changes.

#### Approvals

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

Supplied in bulk and drums of approximately 210 litres.

Where outdoor storage is unavoidable, drums should be covered.

The drums should be stored in such a way as to ensure they are not damaged and grade markings are not obliterated. They should be positioned horizontally so as to prevent water collecting on drum ends.

Ensure drums are tightly re-sealed after use.

## Typical Characteristics

	Unit	Test Method	SHF-HV 15	SHF-HV 32	SHF-HV 46	SHF-HV 68	SHF-HV 100	SHF-HV 150
ISO Grade			15	32	46	68	100	150
Relative Density @ 15°C	kg/ltr	IP160	0.88	0.88	0.88	0.88	0.88	0.89
Viscosity @ 40°C	mm <sup>2</sup> s <sup>-1</sup>	ASTM D445	15	32	46	68	100	150
Viscosity @ 100°C	mm <sup>2</sup> s <sup>-1</sup>	ASTM D445	3.83	6.41	8.32	11.09	13.45	18.01
Viscosity Index			150	150	150	150	130	130
Flash Point, PMCC,	°C	ASTM D93	160	200	220	220	220	220
Pour Point	°C	ASTM D97	-51	-45	-42	-36	-30	-30
Rust Prevention		ASTM D665B	No Rust	No Rust	No Rust	No Rust	No Rust	No Rust
Four Ball Wear 1h, 30 Kg								
1460 rpm	mm	IP 239	0.33	0.32	0.3	0.3	0.3	0.3
FZG Gear Test A/8.3/90	FLS	DIN 51354	-	11	12	12	12	12

The above figures are typical of those obtained with normal production tolerances, and do not constitute a specification. Note 1 mm<sup>2</sup> s<sup>-1</sup> = 1 cSt.

## General Advice

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

BP Marine [www.bpmarine.com](http://www.bpmarine.com)

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Energol SHF-HV Range

Page 2 of 2

