

PUMA Hydraulic Oil HVI

A High Viscosity Index Hydraulic oil

PUMA Hydraulic oil HVI is premium heavy duty hydraulic oil with a high viscosity index to meet the requirements of modern hydraulic systems and to combat severe heat, pressure and difficult working conditions. It has been formulated from high quality refined mineral oil and specialist additives to deliver high performance under severe condition. It also shows excellent flow characteristics at low temperature. PUMA Hydraulic HVI oils are perfect for underground mining applications, hard rock mining, marine and high performance industrial manufacturing operations. It is also recommended to use PUMA Hydraulic HVI oils when low viscosity change with fluctuating temperature is required.

It also contains an anti-wear additive as well as rust, oxidation and corrosion inhibitors that protect bearings and synchronizers, reduce component wear and promote longer transmission and lubricant life.

PUMA Hydraulic Oil HVI meets or exceeds major pumps OEM'S including Bosch Rexroth RDE 90235 and out performs standard Anti-Wear Hydraulic oils.

Available in ISO 15, 32, 46, 68.

- ✓ High Viscosity Index
- ✓ Extended Drain Interval
- ✓ Wide Temperature Range
- ✓ Oxidation Resistance

Designed to Perform

Anti-wear Protection – Longer Equipment Life

Proven anti-wear additive packages provide greater resistance to sliding wear thus ensuring efficiency and long life of all moving parts of hydraulic systems.

Oxidation Resistance - Longer Oil Life

It has extremely good oil life and lubricant stability even when subjected to unusually high thermal stresses; this property minimises sludge and deposit formation, thus preventing blocking of ports, valves and controls, while guaranteeing that the oil remains properly fluid. Maintenance costs are therefore reduced and the useful service life of the oil is extended.

Anti-foam – Increased Performance

Easy release of entrained air which will prevent difficulties with pumps and controls which can cause irregularities in performance and other problems arising from the compressibility of air bubbles.

Low Pour Point - Easy Start Up

Allows for easy start-up of hydraulic equipment; even at low temperatures, without circulation or regulation problems.

Demulsibility – Component Life Extension

Prevents the formation of water in oil emulsion, which enters the system through leakage or condensation. The fluids therefore maintain their lubricating power and anticorrosion performance even under these circumstances.

Anti-corrosion & Anti-rust Properties

These inhibit the oxidation of internal surfaces of hydraulic circuits and therefore preventing breakdown of the oil.

Applications:

PUMA Hydraulic Oil HVI is recommended to be used in all major applications and equipment type (from mining to CNC) where low viscosity change with fluctuating temperature is required including underground mining applications, hard rock mining, marine and high performance industrial manufacturing operations. PUMA Hydraulic Oil HVI out performs standard Anti-Wear standard Hydraulic Oil and hence it can be used in high temperature/ high pressure applications.

Specifications

PUMA Hydraulic oil HVI meets or exceeds the following specifications (except ISO 15 grade)

- Framo Hydraulic System (**Approved for VG 46**)
- Bosch Rexroth RDE 90235.
- Parker (Denison) HF0, HF1, HF2
- Fives (MAG) P68; P69; P70
- JCMAS P041 HK
- GB11118.1-2011
- GM LS-2
- ISO11158 (HM, HV)
- Eaton F-FDGN-TB002-E
- ASTM D6158
- AIST 126, 127
- SEB 181222
- DIN 51524 Part 2,3
- SAE MS1004 (HM, HV)

Typical Physical Characteristics

Property	Temp	Units	Test Methods	ISO 15	ISO 32	ISO 46	ISO 68
ISO Viscosity Grade	-	-	ISO 2422	15	32	46	68
Kinematic Viscosity	@ 40°C	cSt	ASTM D-445	15.8	31.9	46.5	68.3
Kinematic Viscosity	@100°C	cSt	ASTM D-445	4.04	6.13	8.04	10.97
Viscosity Index	-	-	ASTM D-2270	165	143	145	152
Flash Point (COC)	-	°C	ASTM D-92	194	220	232	244
Pour Point	-	°C	ASTM D-97	-57	-44	-47	-44
Density	-	g/ml	ASTM D-4052	0.86	0.86	0.87	0.87
Demulsibility	54°C 40/40/0	min	ASTM D-1401	10	10	15	10
Copper Corrosion	100 °C	-	ASTM D-130	N/A	1A	1A	1A
Foam Sequence I		ml	ASTM D-892	130/0	0/0	20/0	0/0
Foam Sequence II		ml	ASTM D-892	40/0	10/0	10/0	10/0
Foam Sequence III		ml	ASTM D-892	130/0	0/0	0/0	0/0
Copper Corrosion	@100°C		ASTM D-130	N/A	1A	1A	1A
FZG A/8.3/90 Load Stage			DIN 5134-2	N/A	>11	>12	>11
1000 h TOST Test		mg KOH/g	ASTM D-4610	N/A	0.14	0.09	0.11
Oxidation life time hours to TAN 2 mg KOH/kg			ASTM D-943	N/A	6092	5590	Pending

Health & Safety Environment

- This product is unlikely to present any significant health and safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.
- Avoid contact with eyes and skin, use proper impervious gloves with used oil. After skin contact, wash immediately with soap and water. Guidance on health and safety is available on the appropriate Safety Data Sheet (SDS) which can be obtained from sds.pumaenergy.com.au

Protect the Environment

- Take used oil to an authorised collection point. Do not discharge used or new oil into drains, soil or water.

Additional Information

- Technical advice may be obtained from your Puma Energy Representative.