

# MAK HYDROL HLP

## Description

These are premium grade extra heavy duty oils blended from Hydro processed Group II plus base oil making them inherently resistant to oxidation. They are fortified with very carefully selected antiwear additives which make it suitable for applications involving higher and lower load conditions. They possess excellent compatibility with seals which prolongs seal life. They also show exceptional hydrolytic stability and demulsibility and resist any deterioration due to water contamination.

## Application

These are recommended for hydraulic systems and a wide variety of circulation systems of industrial and automotive equipments. These are also used in General manufacturing, Metal and Power equipments. They also find application in mining and construction equipments. They are also suitable for the lubrication of screw and vane type rotary compressors. This grade can also be supplied in Super Clean (Typically NAS 7 at plant level) HDPE Barrels.

## Benefits

- **Outstanding Oxidation Stability:** Reduces consumption, filter blocking and valve sticking.
- **Good water and foam resistant properties:** Separates out water very fast in case of water ingress releases entrapped air immediately to avoid foaming.
- **Excellent Hydrolytic Stability:** This avoids absorption of water in oil and thus enhancing fluid life.
- **Excellent Seal Compatibility:** Prolongs seal life and reduces maintenance.
- **Higher FZG Rating:** Makes it suitable for use at higher load conditions.

## Performance Level

- 11th FLS of FZG – Niemann EP test
- IS 11656: 1986 [Reaffirmed March, 2002]
- DIN 51 524 Part II HL P Type
- Denison HF-0 & HF-2
- Eaton Vickers I-286-S & M-2950-S
- Eaton Vickers 35VQ25 Pump Test
- US Steel 127
- Cincinnati Milacron P-70

## Technical Specifications

Characteristics	ASTM	Typical Figures				
		32	46	68	100	150
Appearance	--	Clear fluid	Clear fluid	Clear fluid	Clear fluid	Clear fluid
Density at 15° C	D1298	0.8513	0.8561	0.8598	0.8644	0.8705
K.V at 40° C, cSt	D445	32.6	46.1	68.3	100.5	150.7
Viscosity Index	D2270	110	108	105	105	103
Pour Point, °C	D97	-21	-21	-18	-18	-18
Flash Point, (COC), °C	D92	210	244	248	256	260
Copper Strip Corrosion Test at 100°C for 3 hrs.	D130	1a	1a	1a	1a	1a
Foaming Characteristics / Stability	D892					
a) Sequence I		Nil	Nil	Nil	Nil	Nil
b) Sequence II		Nil	Nil	Nil	Nil	Nil
c) Sequence III		Nil	Nil	Nil	Nil	Nil
FZG Rating	D5182	11+	11+	11+	11+	11+

All the mentioned values are typical which may vary from batch to batch.

## Storage and Handling

- Indoor Storage is always preferable
- Barrels should be kept horizontally with bunk position at 3 O'clock 9 O'clock position
- Barrels should be kept away from dusty or heated areas.
- During handling any contact with dust must be avoided

## Health & Safety

This grade is not hazardous under normal conditions of use. For further guidance Material Safety Data Sheet (MSDS) may be referred.

## Advice

For any further advice on applications or otherwise, please contact the nearest Bharat Petroleum territory office or Technical Services department at the address given below.

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