

MAK HYDROL

Spindle Oil

Description

These are the low viscosity variants of the hydraulic oils which have been specially developed for lubrication of high speed spindles in machine tools. Their low viscosities reduce operating temperature by reducing friction. They also provide excellent oxidation stability, rust protection and resistance to deposit formation.

Application

These are recommended for spindle lubrication as well as hydraulic systems requiring low viscosity grades and a wide variety of circulation systems of industrial and automotive equipments. These are also used in General manufacturing, Metal and Power equipments.

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 and releases entrapped air immediately to avoid foaming.
- Excellent Hydrolytic Stability : This avoids absorption of water in oil and thus enhances fluid life.

Performance Level

Our grades meet the following specifications for the respective viscosity grades:

- IS 3098 : 1983 [Reaffirmed 2004]
- IS 10522 : 1983 [Reaffirmed 2004]

Technical Specifications

Characteristics	ASTM	MAK HYDROL		
		12	15	22
Appearance	--	Clear fluid	Clear fluid	Clear fluid
Density at 15° C	D1298	0.8492	0.8497	0.8502
K.V at 40° C, cSt	D445	12.8	15.3	22.6
Viscosity Index	D2270	105	105	104
Pour Point, °C	D97	-15	-12	-12
Flash Point, (COC), °C	D92	180	186	200
Copper Strip Corrosion Test at 100°C for 3 hrs.	D130	1	1	1
Foaming Characteristics/Stability				
a) Sequence I		Nil	Nil	Nil
b) Sequence II		Nil	Nil	Nil
c) Sequence III	D892	Nil	Nil	Nil

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 and Safety

These oils are not hazardous under normal conditions of use. For further guidance appropriate 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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