

# MAK TURBOL EP

## Description

MAK Turbol EP is manufactured from specially selected highly refined paraffinic base oils. These oils provide excellent protection against rust and have the ability to release entrained air rapidly. These are specially formulated to satisfy the demanding requirements of modern high output steam turbines.

## Application

These oils are recommended for Geared Turbine which requires extreme pressure properties. This grade can also be supplied in Super Clean (Typically NAS 7 at plant level) HDPE Barrels. These oils are also recommended for the lubrication of bearings of rotary / turbo compressors.

## Benefits

- Higher FZG ratings fulfills the requirements of geared turbines, which require EP properties
- Exceptional thermal and oxidation stability
- Provides good anti-rust and anti-oxidant properties
- Excellent demulsibility and resistance to foaming

## Performance Level

- FZG N IEMANN TEST 10<sup>th</sup> FLS
- IS 1012 : 2002
- DIN 51 515 Part 1
- BS 489 : 1983
- GEK 32568A
- SIEMENS 0 – 1130-0468-01
- Brown Boveri HTGD 90117E

Our grades meet the above specifications for the respective Viscosity Grades.

## Technical Specifications

Characteristics	ASTM	MAK TURBOL EP				
		32	46	57	68	78
Appearance	--	Clear fluid	Clear fluid	Clear fluid	Clear fluid	Clear fluid
Density at 15° C	D1298	0.851	0.8551	0.8595	0.8611	0.8629
K.V at 40° C, cSt	D445	32.5	46.5	57.6	68.8	78.2
Viscosity Index	D2270	110	110	108	106	105
Pour Point, °C	D97	-18	-18	-18	-15	-15
Flash Point, (COC), °C	D92	238	246	252	256	260
Copper Strip Corrosion Test at 100°C for 3 hrs.	D130	No corrosion	No corrosion	No corrosion	1a	1a
FZG Gear test, Pass load stage A/16.6/90	DIN 51354-2	9th	9th	9th	9th	9th
Foaming Characteristics/ Stability	D892					
a) Sequence I		Nil / Nil	Nil / Nil	Nil / Nil	Nil / Nil	Nil / Nil
b) Sequence II		10 / Nil	10 / Nil	10 / Nil	10 / Nil	10 / Nil
c) Sequence III		Nil / Nil	Nil / Nil	Nil / Nil	Nil / 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.

### **Bharat Petroleum Corporation Ltd.**

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