

## Product Data Sheet

# MAK TURBOL EP

ISO VG: 32, 46 & 68

NON ISO VG: 57 & 78

### DESCRIPTION

These are 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.

### APPLICATIONS

These oils are recommended for Geared Turbine which requires extreme pressure properties.

### PERFORMANCE BENEFITS

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

### 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.

Characteristics	IS 1448	Typical Figures		
		32	46	57
Appearance	--	Clear fluid	Clear fluid	Clear fluid
Density at 15° C	P:16	0.8510	0.8551	0.8595
K.V at 40° C, cSt	P:25	32.5	46.5	57.6
Viscosity Index	P:56	110	110	108
Pour Point, °C	P:10	-18	-18	-18
Flash Point, (COC), °C	P:69	238	246	252
Copper Strip Corrosion Test at 100°C for 3 hrs.	P:15	No corrosion	No corrosion	No corrosion
Foaming Characteristics/Stability	P:67	Nil / Nil	Nil / Nil	Nil / Nil
a) Sequence I				
b) Sequence II				
c) Sequence III		Nil / Nil	Nil / Nil	Nil / Nil

# Product Data Sheet



Characteristics	IS 1448	Typical Figures	
		68	78
Appearance	--	Clear fluid	Clear fluid
Density at 15° C	P:16	0.8611	0.8629
K.V at 40° C, cSt	P:25	68.8	78.2
Viscosity Index	P:56	106	105
Pour Point, °C	P:10	-15	-15
Flash Point, (COC), °C	P:69	256	260
Copper Strip Corrosion Test at 100°C for 3 hrs.	P:15	1a	1a
Foaming Characteristics/Stability			
a) Sequence I	P:67	Nil / Nil	Nil / Nil
b) Sequence II		10 / Nil	10 / Nil
c) Sequence III		Nil / Nil	Nil / Nil

## Health and Safety

These oils are not hazardous under normal conditions of use. For further guidance appropriate Material Safety Data Sheet may be referred.

**Bharat Petroleum Corporation Ltd.**

Technical Services

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