

# MAK STEEL EP 100

## Description

MAK STEEL EP 100 is premium quality heavy duty circulating oils designed for lubricating gears and bearings. This specifically designed oil meets the critical performance criteria of the Morgan Construction Company's high speed No-Twist Rod Mills, as well as the circulation oil requirements of Danielli rod mills. It is formulated with high quality severely hydroprocessed mineral base oils and a high performance ashless additive system designed to provide exceptional equipment protection and reliability under severe operating conditions.

## Application

- Typical applications include
- No Twist Rod Mills
  - Circulating systems for Gear and Bearing lubrication

## Benefits

Features	Advantages and Potential Benefits
Outstanding Oxidation and Thermal Stability	<ul style="list-style-type: none"> <li>• Extends oil service life</li> <li>• Lower maintenance costs</li> </ul>
High Load-carrying ability	Protects all machinery parts, e.g. bearings, gears from wear, ensuring lower maintenance cost and trouble free operation
Very good air release and anti-foam properties	Provides rapid air release without excessive foaming to give high levels of system efficiency.
Effective Rust and Corrosion Protection	Ensure protection to all metal surfaces e.g. gears, bearings surfaces from rust and corrosion even under high humid ambient condition
Excellent Water Separability	Less potential for emulsion formation leading to lower sludge and longer oil life.

## Performance Level

- Meets Morgan No Twist Mill Specifications
- Meets Danieli Specifications for film bear EP oils

## Dynamic Demulsibility

MAK Steel EP has been tested and certified by Clark Laboratories,LCC for dynamic Demulsibility .The test results are as under

Test	MORGOIL Advanced Dynamic Demulsibility Requirements for bearings	MAK Steel EP
Oil in Water (%)	1 (max)	0
Water in Oil (%)	10 (max)	3

## Technical Specifications

S No	Parameter	Test Method	Morgan No Twist Mill Requirements	MAK STEEL EP 100
1	K. Viscosity @ 40°C, cSt	ASTM D445	93	90
2	Pour point, °C	ASTM D97	-12	-24
3	Flash Point, °C	ASTM D92	224	248
4	Viscosity Index	ASTM D2270	95	110
5	Rust Test, Method A & B	ASTM D665	pass	Pass
6	Copper Corrosion ( 3 hours at 100 ° C )	ASTM D130	1b	1a
7	FZG Gear Test, Failure Stage	DIN 51354	12	12
8	RPVOT	ASTM D2722	140 minutes	750 minutes
9	Demulsibility at 82°C, Minutes to 3ml	ASTM D1401	40-37-3 (25)	40-40-0 (10)
10	Demulsibility for non-EP oils, ( ml free water )	ASTM D2711	36	39
11	Air entrainment @ 75 deg C (0.2 % air left )	ASTM D3428	4.5 minutes	2.5 minutes
12	Foaming Characteristics, Tendency/Stability, ml/ml	ASTM D892	0/0 for sequences I,II,III	0/0 for sequences I,II,III

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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