# Mobil Vacuoline™ 500 Series

Mobil Industrial , Pakistan

Circulating Oils

## Product Description

The Mobil Vacuoline 500 Series family of products provides a versatile lubricant source for a wide range of industrial equipment. The Mobil Vacuoline 500 Series of lubricants are high performance heavy duty circulating oils designed for the demands of No-Twist Rod mills, however their all round performance makes them a excellent choice for circulation systems lubricating gears and bearings. Mobil Vacuoline 500 Series are designed to meet the critical requirements of the Morgan Construction Company's high speed No-Twist Rod Mills, as well as the circulation oil requirements of Danielli rod mills.

They are formulated from high quality base stocks and a proprietary additive system to provide superior wettability, extra oil retention and thin film protection against rust and corrosion. Mobil Vacuoline 500 gives excellent resistance to oxidation and thermal degradation, and a high level of protection against wear. They possess excellent demulsibility that permits water and other contaminants to separate readily from the oil in the system reservoir. The Mobil Vacuoline 500 Series are available in six viscosity grades.

## Features and Benefits

The Mobil Vacuoline 500 Series family of products is well known and highly regarded world-wide based on their outstanding performance and the Research and Development expertise and global technical support which stand behind the brand. The highly versatile performance of Mobil Vacuoline 500 Series oils, has made them the choice of many users around the world for many decades.

Mobil Vacuoline 500 series are designed for lubrication of circulation systems of No-Twist Rod Mills, industrial and marine gearboxes, hydraulic systems plus a wide variety of ancillary equipment.

| Features | Advantages and Potential Benefits |
|---|---|
| Good protection against rust and corrosion through a balanced high performance lubricant formulation | Fewer unscheduled stoppages and lower maintenance costs |
| Outstanding antiwear performance | Excellent protection of critical bearings and gears |
| Excellent water separation characteristics | Rapid separation of water for smooth, efficient operation, reduced downtime and undiminished wear protection |
| High resistance to oxidation and thermal degradation | Long oil charge life and avoidance of costs of unanticipated production interruptions |
| Multiple application capability | Inventory Savings |

## Applications

These oils are intended primarily for the lubrication of plain bearings, roller bearings, parallel shaft and bevel gearing. They are suitable as multipurpose lubricants in systems not subject to shock loading and which do not require extreme pressure performance. The Mobil Vacuoline 500 series possess good demulsibility that is retained under conditions of severe water contamination. Mobil Vacuoline 500 series are used in applications using splash, bath and ring oil arrangements and all other application methods involving pumps, valves and auxiliary equipment. They are recommended for use in hydraulic systems where higher viscosity oils are specified. They are particularly resistant to the effects of prolonged high temperature exposure and perform well in circulating systems with short oil residence times.

Typical applications include:

- No Twist Rod Mills
- Moderate duty spur, bevel, helical and herringbone gear units
- Circulating systems
- Mobil Vacuoline 525, 528, 533 can also be used in hydraulic systems employing gear, vane, radial and axial piston pumps where high viscosity anti-wear hydraulic fluids are required.
- Certain compressors and vacuum pumps handling air and inert gases provided the discharge temperatures do not exceed 150oC , not suitable for breathing air compressors

## Specifications and Approvals

| This product has the following approvals: | 525 |
|---|---|
| DANIELI Type 21-0.597654.F BGV No Twist Stand Block-TMB/TFS Rev 15 | X |

| This product meets or exceeds the requirements of: | 525 |
|---|---|
| Morgan No-Twist® Mill Oil Quality Specification | X |

## Properties and Specifications

| Property | 525 | 528 | 533 | 537 | 546 | 548 |
|---|---|---|---|---|---|---|
| Grade | | ISO 150 | ISO 220 | ISO 320 | ISO 460 | ISO 680 |
| Copper Strip Corrosion, 3 h, 100 C, Rating, ASTM D130 | 1A | 1A | 1A | 1A | 1A | 1A |
| Demulsibility, Total Free Water, Non-EP Oils, ml, ASTM D2711 | 39 | 38 | 36 | 39 | 35 | 36 |
| Density @ 15 C, kg/l, ASTM D1298 | 0.88 | 0.89 | 0.89 | 0.89 | 0.9 | 0.92 |
| Emulsion, Time to 37 mL Water, 54 C, min, ASTM D1401 | 15 | | | | | |
| Emulsion, Time to 37 mL Water, 82 C, min, ASTM D1401 | | 15 | 15 | 15 | 15 | 15 |
| Emulsion, Time to 40/37/3, 82 C, min, ASTM D1401 | | 10 | 15 | 20 | 25 | |
| FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1 | 12 | 12 | 12 | 12 | 12 | 12 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 264 | 272 | 284 | 288 | 286 | 286 |
| Foam, Sequence I, Stability, ml, ASTM D892 | 0 | 0 | 0 | 0 | 0 | 0 |
| Foam, Sequence I, Tendency, ml, ASTM D892 | 10 | 5 | 5 | 10 | 5 | 0 |
| Foam, Sequence II, Stability, ml, ASTM D892 | 0 | 0 | 0 | 0 | 0 | 0 |
| Foam, Sequence II, Tendency, ml, ASTM D892 | 0 | 0 | 0 | 0 | 0 | 0 |
| Foam, Sequence III, Stability, ml, ASTM D892 | 0 | 0 | 0 | 0 | 0 | 0 |
| Foam, Sequence III, Tendency, ml, ASTM D892 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 10.7 | 14.4 | 18.8 | 24.4 | 29.4 | 36.9 |

| Property | 525 | 528 | 533 | 537 | 546 | 548 |
|---|---|---|---|---|---|---|
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 89 | 146 | 215 | 309 | 453 | 677 |
| Pour Point, °C, ASTM D97 | -24 | -21 | -15 | -12 | -12 | -9 |
| Rust Characteristics, Procedure A, ASTM D665 | PASS | PASS | PASS | PASS | PASS | PASS |
| Rust Characteristics, Procedure B, ASTM D665 | PASS | PASS | PASS | PASS | PASS | PASS |
| Viscosity Index, ASTM D2270 | 99 | 96 | 96 | 96 | 95 | 89 |

**Health and Safety**

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com

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