



## Mobil SHC™ PM Series

Mobil Industrial , Libya

Paper Machine Lubricants

### Product Description

Mobil SHC™ PM Series products are superior performance synthetic lubricants specifically designed for the most demanding industrial paper machine circulating systems. The Mobil SHC PM Series oils are formulated to provide outstanding protection of gears and bearings operating under the most severe conditions. They have very low pour points and a naturally high viscosity index (VI) which helps ensure good low temperature start-up while maintaining excellent viscosity characteristics at very high temperatures. The fluids are very shear stable and maintain viscosity control even when subjected to severe mechanical shear in heavily loaded bearings and gears. Their low traction coefficient and high viscosity index can help result in lower energy consumption and reduced component operating temperatures.

To develop the latest Mobil SHC technology for Mobil SHC PM Series oils, ExxonMobil product formulation scientists chose select base oils because of their exceptional thermal/oxidative resistance potential and combined them with a balanced additive system, which complement the inherent benefits of the base oils to attain high performance standards. These fluids permit the use of higher steam pressures, temperatures and machine speeds common in high output paper machines and calendar rolls. Their outstanding hydrolytic stability and filterability assure excellent performance in the presence of water and the ability to retain effective filtration even at very fine filtration levels. They readily separate water and retain their colour characteristics for extended periods of operation under severe conditions.

### Features and Benefits

The Mobil SHC PM Series oils represent a technological advance in paper machine lubrication. Their excellent performance capabilities in the areas of wear protection, enhanced oxidation stability, chemical stability, effective rust and corrosion protection, colour stability, and filterability not only prolong maintenance service intervals but can improve machine performance and increase production capacity. This can result in less required maintenance and longer equipment life.

| Features                                    | Advantages and Potential Benefits  |
|---|--|
| Excellent Wide Temperature Performance      | Easier start-up and improved lubrication at cold starts<br>Extra margin of protection at elevated temperatures<br>Better control of feed rates |
| Exceptional Wear Protection                 | Improved bearing and gear performance  |
| Outstanding Oxidation and Thermal Stability | Longer oil life<br>Lower filter replacement costs<br>Cleaner systems<br>Reduction of system deposits   |
| Effective Water Separation Properties       | Allows easier removal of water<br>Reduces formation of undesirable emulsions in systems  |
| Low Traction Coefficient                    | Reduced energy consumption<br>Lower operating temperatures<br>Reduced wear   |
| Excellent Filterability                     | Keeps oil lines and flow control mechanisms free of deposits<br>Improved oil flow and cooling performance<br>Lowers filter replacement costs   |

| Features                                 | Advantages and Potential Benefits   |
|--|---|
| High Level Rust and Corrosion Protection | Protects gears and bearings in wet environments<br>Provides vapour space protection for areas of bearing and gear cavities above normally wetted surfaces |

### Applications

- Lubrication of severe industrial paper machine circulating systems
- Application involving circulation systems operating over a wide temperature range such as calendar rolls
- Systems that must be started and brought on line quickly
- Circulation systems lubricating gears and bearings

### Properties and Specifications

| Property  | 150     | 220     | 320     | 460     |
|---|---------|---------|---------|---------|
| Grade   | ISO 150 | ISO 220 | ISO 320 | ISO 460 |
| Copper Strip Corrosion, 24 h, 100 C, Rating, ASTM D130        | 1B      | 1B      | 1B      | 1B      |
| Density @ 15 C, kg/l, ASTM D1298                              | 0.857   |         |         |         |
| Emulsion, Time to 40/40/0, 82 C, min, ASTM D1401              | 15      | 25      | 30      | 30      |
| FZG 4-Square Load Support, Fail Stage, DIN 51354              | 11      |         |         |         |
| FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1          |         | 11      | 11      | 11      |
| Flash Point, Cleveland Open Cup, °C, ASTM D92                 | 220     | 220     | 220     | 220     |
| Hydrolytic Stability, Acid Number Change, mgKOH/g, ASTM D2619 |         | 0       | 0       | 0       |
| Kinematic Viscosity @ 100 C, mm <sup>2</sup> /s, ASTM D445    | 18.9    | 25.6    | 34.7    | 44.8    |
| Kinematic Viscosity @ 40 C, mm <sup>2</sup> /s, ASTM D445     | 158     | 225     | 325     | 465     |
| Pour Point, °C, ASTM D97                                      | -39     | -36     | -33     | -27     |
| Rust Characteristics, Procedure B, ASTM D665                  | PASS    | PASS    | PASS    | PASS    |
| Specific Gravity, 15 C/15 C, ASTM D1298                       |         | 0.863   | 0.865   | 0.874   |
| Viscosity Index, ASTM D2270                                   | 124     | 127     | 130     | 137     |

### 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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