# Mobilgrease™ FM Series

Mobil Grease , Hungary

Grease

## Product Description

Mobilgrease™ FM 101 and FM 222 are high performance multi-purpose products designed specifically for the lubrication of food processing machinery. Mobilgrease FM 101 and FM 222 are formulated with components meeting the requirements of CFR 178.3570, Chapter 21, and are NSF registered as H1 classified lubricants. The Mobilgrease FM 101 and FM222 are manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels product integrity are maintained.

Food processing equipment often operates in a variety of environments, covering the extremes of temperatures from oven to freezer operations, as well as a high level of contamination from water, steam and cleaning agents. Mobilgrease FM 101 and FM 222 were developed as multipurpose grease lubricants capable of providing excellent lubrication in all of these environments. Mobilgrease FM 101 and FM 222 are engineered with excellent water resistance to withstand periodic washdown and cleaning operations frequent in the food processing industry. Rust inhibition is a critical property for the industry. Mobilgrease FM 101 and FM 222 are formulated with an excellent rust inhibition package which, working in concert with the water resistance properties, will provide protection against rust. The select base oils coupled with excellent thickener shear stability translates into an ability to provide lubrication over a wide range of speeds, loads and temperatures. Mobilgrease FM 101 and FM 222 are also formulated to handle a variety of loads, exhibiting good protection against wear and shock load conditions.

Mobilgrease FM 101 and FM 222 were designed to meet many global performance and cultural requirements, including:

- NSF H1 Registered
- DIN 51825 KPF1K -20 (for Mobilgrease FM 101)
- DIN 51825 KPF2K-20 (for Mobilgrease FM 222)
- Kosher/Parve
- Halal

Mobilgrease FM 101 and FM 222 will not contribute to MOAH content in food when used in accordance with FDA 21CFR178.3570 limitations.

## Features and Benefits

Mobilgrease FM 101 and FM 222 belong to the Mobilgrease brand of products, which has gained a worldwide reputation for innovation and performance excellence. Mobilgrease FM 101 and FM 222 are designed by ExxonMobil formulation technologists and backed by its worldwide technical support staff.

Mobilgrease FM 101 and FM 222 greases have been designed specifically to meet the needs of the food processing industry that requires excellent water resistance, rust protection and a lubricant able to provide oil to the load zones reliably under high shear conditions. These greases offer the following features and potential benefits:

| Features | Advantages and Potential Benefits |
|---|---|
| Excellent water resistance and rust protection | Helps provide superb equipment protection during frequent equipment cleaning operations |
| Excellent thickener shear stability | Product exhibits excellent stability for long periods of time, helping to provide oil more consistently between relubrication cycles |
| NSF H1 registered, DIN51825certified, Kosher/Parve, Halal | Engineered to meet global requirements, presenting a multi-purpose solution to the food processing industry around the world |

| Features | Advantages and Potential Benefits |
|---|---|
| Manufactured in facilities registered to ISO 21469 | Product integrity assurance through independent verification |

### Applications

Mobilgrease FM 101 and FM 222 greases are recommended for multi-purpose lubrication of food processing equipment where NSF H1 registration is required. The food industry includes food processing, beverage and packing industries for a wide range of cultures.

Applications include:

- General rotating equipment lubrication
- Conveyor bearings
- Equipment central lubrication systems (Mobilgrease FM 101)
- Anti-friction roller bearings under heavy or shock loading
- Linkages and slides
- Joints

### Specifications and Approvals

| This product has the following builder approvals: | FM 101 | FM 222 |
|---|---|---|
| IFANCA Halal | X | X |
| Kosher Certification Council Kosher & Parve | X | X |

| This product is recommended for use in applications requiring: | FM 101 | FM 222 |
|---|---|---|
| Fives Cincinnati P-64 | | X |
| Fives Cincinnati P-72 | X | |

| This product is registered to the requirements of: | FM 101 | FM 222 |
|---|---|---|
| NSF H1 | X | X |

| This product meets or exceeds the requirements of: | FM 101 | FM 222 |
|---|---|---|
| DIN 51825:2004-06 - KPF 1 K -20 | X | |
| DIN 51825:2004-06 - KPF 2 K -20 | | X |
| FDA 21 CFR 178.3570 | X | X |

### Properties and Specifications

| Property | FM 101 | FM 222 |
|---|---|---|

| Property | FM 101 | FM 222 |
|---|---|---|
| Grade | NLGI 1 | NLGI 2 |
| Thickener Type | Aluminium Complex | Aluminium Complex |
| Color, Visual | White | White |
| Corrosion, Cu 24H at 120C, Rating, DIN 51811 | 1 | 1 |
| Dropping Point, °C, ASTM D2265 | 260 | 260 |
| FAG FE9, 1500 N, 6000 RPM, Unshielded at 120C, L50 hrs., DIN 51821 | 120 | 120 |
| Four-Ball Extreme Pressure Test, Weld Point, kgf, ASTM D2596 | 315 | 315 |
| Four-Ball Wear Test, Scar Diameter, mm, ASTM D2266 | 0.5 | 0.5 |
| Penetration, 60X, 0.1 mm, ASTM D217 | 325 | 280 |
| SKF Emcor Rust Test, Distilled Water, ASTM D6138 | 0 , 0 | 0 , 0 |
| Viscosity @ 40 C, Base Oil, mm2/s, ASTM D445 | 100 | 220 |

### 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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