

Mobilgrease FM 221 and FM 222

Grease

Product Description

Mobilgrease FM 221 and FM 222 are high performance multi-purpose products designed specifically for the lubrication of food processing machinery. Mobilgrease FM 221 and FM 222 are formulated with components meeting the requirements of CFR 178.3570, Chapter 21, and are NSF registered as H1 classified lubricants.

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 221 and FM 222 were developed as mid-viscosity, multipurpose grease lubricants capable of providing excellent lubrication in all of these environments. Mobilgrease FM 221 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 221 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 ISO VG 220 base oil viscosity coupled with excellent thickener shear stability translates into an ability to provide lubrication over a wide range of speeds, loads and temperatures. Mobilgrease FM 221 and FM 222 are also formulated to handle a variety of loads, exhibiting good protection against wear and shock load conditions.

Mobilgrease FM 221 and FM 222 were designed to meet many global performance and cultural requirements, including:

- HSF H1 Registered- DIN 51825 KPF1K -20 (for Mobilgrease FM 221) - DIN 51825 KPF2K-20 (for Mobilgrease FM 222)- Kosher/Parve- Halal

Features and Benefits

Mobilgrease FM 221 and FM 222 belong to the Mobilgrease brand of products, which has gained a worldwide reputation for innovation and performance excellence. Mobilgrease FM 221 and FM 222 are designed by ExxonMobil formulation technologists and backed by our worldwide technical support staff.

Mobilgrease FM 221 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 | Provides superb equipment protection during frequent equipment cleaning operations |
| ISO 220 mid-viscosity base oil | Mid-viscosity able to provide good film thickness over a wide range of operating temperatures |
| Excellent thickener shear stability | Product exhibits excellent stability for long periods of time, providing oil more consistently between relubrication cycles. |



| Features | Advantages and Potential Benefits |
|---|--|
| NSF H1 registered, DIN 51825 certified, Kosher/Parve, Halal | Engineered to meet global requirements, presenting a multi-purpose solution to the food processing industry around the world |

Applications

Mobilgrease FM 221 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, medical and packing industries for a wide range of cultures. Applications include:

- General rotating equipment lubrication
- Conveyor bearings
- Equipment central lubrication systems (FM 221)
- Anti-friction roller bearings under heavy or shock loading
- Linkages and slides
- Joints

Specifications and Approvals

| Mobilgrease meets the following industry and builder specifications: | FM 221 | FM 222 |
|--|--------|--------|
| NSF H1 | X | X |
| DIN 51825 KPF1K -20 | X | |
| DIN 51825 KPF2K -20 | | X |
| Mobilgrease also has these other qualifications: | FM 221 | FM 222 |
| Kosher/Parve | X | X |
| Halal | X | X |

Typical Properties

| | Mobilgrease FM 221 | Mobilgrease FM 222 |
|--|--------------------|--------------------|
| NLGI Grade | 1 | 2 |
| Thickener Type | Aluminum Complex | Aluminum Complex |
| Color, Visual | White | White |
| Penetration, Worked, 25° C, ASTM D 217, mm/10 | 325 | 280 |
| Dropping Point, °C, ASTM D 2265 | 260 | 260 |
| Viscosity of Oil, ASTM D 445 | | |
| cSt @ 40° C | 220 | 220 |
| Penetration Consistency Change, 100,000 Stroke, Change from Worked Pen, ASTM D 1831, mm/10 | +15 | +5 |
| 4-Ball Wear Test, ASTM D 2266, Scar, mm | 0.50 | 0.50 |
| Corrosion Prevention, ASTM D 1743, Rating | Pass | Pass |
| Copper Strip Corrosion, DIN 51811 | 1b | 1b |



| | Mobilgrease FM 221 | Mobilgrease FM 222 |
|--|---------------------------|---------------------------|
| 4-Ball Weld Load, ASTM D 2596, Kg | 315 | 315 |
| FE-9 (DIN 51821, A-Unshielded), L50, 100 hours, Deg. C | 120 | 120 |

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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ExxonMobil Lubricants & Specialties

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