

Mobil DTE™ FM Excel Series

High Performance NSF H1 Registered Paper Machine Oils

Key Benefits



NSF H1 food grade lubricants for use in applications where incidental food contact may occur



Helps to protect from wear on critical machine components for improved reliability and performance



Formulated to protect the system from rust and corrosion in wet environments and readily separates from water



Balanced formulation effectively inhibits oxidation offering long oil and filter life with reduced deposit formation

Mobil DTE™ FM Excel are high performance food grade lubricants formulated to provide outstanding equipment protection in demanding paper machine circulating systems, gears and bearings.

Applications

Mobil DTE™ FM Excel lubricants are particularly suitable for modern, high-output, paper machines producing food grade paper which is then used for the manufacturing of food containers, packaging, cups, and other food-contact tools.

Mobil DTE™ FM Excel Series is available in two viscosity grades, ISO VG 150 and 220, allowing a broad use in many paper manufacturing plants.

- Wet end: forming and pressing section
- Dry end: drying section, size press, calender stack, reel, winder
- Multi-purpose lubrication: bearings, gears and hydraulic systems



Food Safety

The Mobil DTE™ FM Excel Series is formulated to comply with the stringent and most recent food safety standards.

- **NSF H1** registered lubricants
- Complies with Title **21 CFR 178.3570** by the Food and Drug Administration (USA) for lubricants with incidental food contact
- Formulated to **not contribute to MOAH content in food** when used in accordance with FDA 21 CFR 178.3570 limitations
Please visit <https://mobil.eu/mosh&moah> to know more

Performance up to the standards of leading papermill machine manufacturers

Mobil DTE™ FM Excel has been tested against **Voith, Valmet and Andritz** requirements.

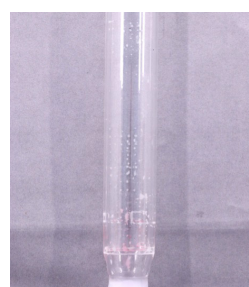
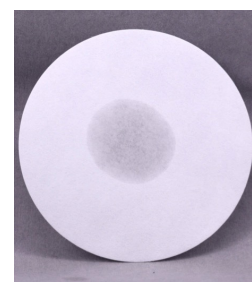
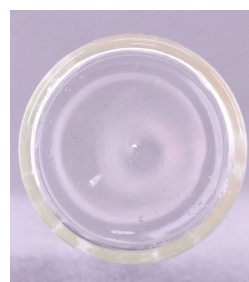
Mobil DTE™ FM Excel Series

Typical properties*	Mobil DTE FM Excel 150	Mobil DTE FM Excel 220
Grade	ISO 150 10.9	ISO 220
Copper Strip Corrosion, 3 h, 100 °C, Rating, ASTM D130	1B	1A
Demulsibility, Time to 3 ml Emulsion, 82 °C, min, ASTM D1401	15	10
Density @ 15 °C, kg/l, ASTM D4052	0.8812	0.8814
FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1	12+	14+
Flash Point, Cleveland Open Cup, °C, ASTM D92	238	202
Foam, Sequence I, Stability, ml, ASTM D892	0/0	0/0
Foam, Sequence I, Tendency, ml, ASTM D892	0/0	0/0
Foam, Sequence II, Stability, ml, ASTM D892	0/0	0/0
Foam, Sequence II, Tendency, ml, ASTM D892	0/0	0/0
Foam, Sequence III, Stability, ml, ASTM D892	0/0	0/0
Foam, Sequence III, Tendency, ml, ASTM D892	0/0	0/0
Kinematic Viscosity @ 40 °C, mm ² /s, ASTM D445	150	210.8
Pour Point, °C, ASTM D97	-18	-15
Rust Characteristics, Procedure A, ASTM D665	Pass	Pass
Rust Characteristics, Procedure B, ASTM D665	Pass	Pass

Specifications and Approvals

This product meets or exceeds the requirements of	ISO VG
DIN 51517-3:2018-09	150, 220
DIN 51524-2:2017-06	150
This product is recommended for use in applications requiring	ISO VG
Valmet Paper RAU4L00659_07 (wet and dry ends)	150, 220
Valmet Paper RAUAH02724_01 (mineral oil for hydraulic rolls)	150, 220
Voith Paper VS 108 5.3.1 2021-10 (wet end)	150
Voith Paper VS 108 5.3.2 2021-10 (dry end)	220
Voith Paper VS 108 5.3.3 2021-10 (off-line coaters)	150
Voith Paper VS 108 5.3.4 2021-10 (hydraulic roll)	150
Voith Paper VS 108 5.3.5 2021-10 (shoe press)	220
Voith Paper VS 108 5.3.6 2021-10 (winder)	220

Resistance to Oxidation and Deposit Formation



The Mobil DTE™ FM Excel Series shows excellent resistance to oxidation and deposit formation. In the CEC L-48-00-B Oxidation Test (192hrs, 120 °C, air l/h) the oil remains clear, with no visible signs of darkening or deposits.



Advancing Productivity™

Safety

Reduced maintenance and long service intervals help you mitigate potential employee risk arising from direct contact with equipment.

Environmental Care[†]

Mobil DTE™ FM Excel lubricants help to reduce oil consumption via extended oil drain intervals and better keep-clean features.

Productivity

The extended life time of Mobil DTE™ FM Excel helps reduce downtime and improve reliability.

* 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 exxonmobil.com. ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the local ExxonMobil-affiliate entities.

[†] Visit mobil.eu to learn how certain Mobil-branded lubricants may provide benefits to help reduce environmental impact. Actual benefits will depend upon product selected, operating conditions and applications.