MAK SYNGEAR FG

Food grade advanced synthetic oils for heavy duty industrial gears

MAK Syngear FG is a range of outstanding performance, fully synthetic food grade industrial gear oil designed to provide excellent equipment protection, long oil life and trouble free operation even under extreme condition. MAK Syngear FG oils are NSF H1 registered oils for incidental food contact and to be used in food and beverage processing environment. They are specially formulated with high viscosity index synthetic base oils fortified with carefully selected EP additive system to provide extra protection to the gear tooth and bearings in order to handle severe stress encountered in heavy duty industrial gears. It exhibits excellent performance against scuffing due to shock loads. This product offers exceptionally high oxidation resistance, excellent low temperature fluidity and high load bearing properties. Low traction coefficient of these oils combine to provide a potential reduction in power consumption in many gear systems. These oils have been developed to deliver optimum value through enhanced wear protection, long oil life and high system efficiency. MAK Syngear FG oils are compatible with seal materials and paints normally specified for use in industrial gear systems with mineral oils.

Grades: MAK Syngear FG range is available in the following ISO VG grades – **220** and **320**

Applications:
MAK Syngear FG oils recommended for lubrication of all types of industrial enclosed gear drives functioning under severe stresses with forced circulation or splash or oil bath lubrication systems operating normal and harsh operating conditions. These grades are designed for lubrication of industrial gear drives where extreme pressure performance due to heavy or shock loading is needed. They provide dependable performance for continuous service even under widely varying operating temperatures and also in applications where corrosion may be severe. MAK Syngear FG oils are designed primarily for the lubrication in heavily loaded spur, bevel, helical, herringbone and planetary gear units as well as plain antifriction bearings and gear couplings. These can be used in gear systems in food, beverage, dairy, meat and poultry processing plants.

Performance/ Benefits:
Outstanding Oxidation Stability – outstanding resistance to the effects of oxidising agents. Resists sludge and deposit formation. Ensures reliability, longer operating life and less maintenance.

Excellent Anti-wear and EP Property – provides excellent load bearing capability and helps reduce gear tooth and bearing wear on both steel and bronze components. Offers protection to the system components. Extends the life and availability of the equipment.

Excellent Thermal Stability – provides resistance to thermal break down and minimizes the risk of formation of the harmful sludge and deposit by resisting thermal and chemical break down of the oil. Offers longer oil life and extended drain period.

Low Traction Properties – excellent low temperature performance with engineered material. Low traction coefficient compared to mineral oils offers low fluid friction and produces lower operating temperatures. Potential of improved equipment efficiency and reduced energy consumption.

Good Corrosion Protection – provides protection from rusting and corrosion of the equipment.

Resistance to Foaming – allows effective lubrication, precision control and efficient power transfer. Maintains system efficiency.

Excellent Compatibility – with internal gearbox paints, solid seals and liquid seals.

Specification:
- AIST 224
- DIN 51517 PART 3 (CLP)
- 12th FZG-Niemann EP Test

NSF – NSF International, USA
H1 – Possibility of incidental food contact

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Typical Physico-Chemical Data: MAK Syngear FG

Characteristics	Method	220	320
Appearance	Visual	Clear & Bright	Clear & Bright
Density, g/cc @15^{O}C	ASTM D1298	0.859	0.858
Kinematic Viscosity @40^{O}C, cSt	ASTM D445	220.5	323.5
Kinematic Viscosity @100^{O}C, cSt	ASTM D445	26.0	34.3
Viscosity Index	ASTM D2270	150	150
Flash Point, COC, ^{O}C	ASTM D92	240	244
Pour Point, ^{O}C	ASTM D97	-36	-36
Copper Corrosion, 100^{O}C, 3 hrs.	ASTM D130	1b	1b
Rust test, Procedure A & B	ASTM D665	Pass	Pass
Foaming Characteristics/ Stability, ml a) Sequence I b) Sequence II c) Sequence III	ASTM D892	 0/0 10/0 0/0	 0/0 10/0 0/0
FZG Gear test, Pass load stage	DIN 51354-2	12	12

Storage & Handling:
The product should be stored inside. Keep it properly sealed to avoid contamination. Avoid freezing. Shelf life is 5 yrs. under protected storage conditions.

Health & Safety:
They are unlikely to be hazardous when properly used in recommended applications. Contamination of the oil from other oils, greases, chemicals, dirty water etc. can occur during the use. It should be avoided. Regular monitoring of the in-use product is recommended.

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