

MAK SYNGEAR

Description

MAK SYNGEAR is supreme performance, fully synthetic industrial gear oil designed to provide optimum equipment protection and oil life even under extreme condition .It is specially formulated with high viscosity index synthetic base oils fortified with non-chlorinated extreme pressure additives to enhance its exceptional performance.

Application

- Heavily loaded enclosed spur, helical, herringbone, bevel and planetary gearboxes.
- Application where the OEMs recommends synthetic extreme pressure gear oil.
- Industrial gear drives where full extreme pressure and micro-pitting performance due to heavy / shock loading is needed.

Benefits

- High level anti-wear performance
- Extreme pressure property
- Micro-pitting performance
- Excellent oxidation & thermal stability
- Good low temperature properties
- Anti-foam characteristics.

Performance Level

- U.S. Steel 224
- AGMA 9005-E-02
- DIN 51517 Part 3
- Micro-pitting performance - Flender AG
- David Brown S1.53.101 Type E
- FAG FE8 test
- Cincinnati Machine P-74

Technical Specifications

Characteristics	Test Method	MAK SYNGEAR 150	MAK SYNGEAR 220	MAK SYNGEAR 320	MAK SYNGEAR 460	MAK SYNGEAR 680	MAK SYNGEAR 1000
Appearance	-	Clear & Bright	Clear & Bright	Clear & Bright	Clear & Bright	Clear & Bright	Clear & Bright
Kinematic Viscosity, cSt	ASTM D 445						
at 40°C		150.1	221.4	327.0	462.7	645.08	970.8
at 100°C		19.84	26.06	35.44	47.05	62.02	82.12
Viscosity Index	ASTM D 2270	152	150	154	159	166	165
Pour Point, °C	ASTM D 97	-35	-35	-36	-39	-36	-36
Flash Point, COC, °C	ASTM D 92	246	250	256	258	262	264
Copper corrosion @100°C for 3 hrs	ASTM D 130	1b	1b	1b	1b	1b	1b
Rust test, Procedure A & B	ASTM D 665	Pass	Pass	Pass	Pass	Pass	Pass
Foam Tendency /Stability, ml	ASTM D 892						
Seq I		0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Seq II		10 / 0	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0
Seq III		0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Timken OK Load, lb	ASTM D 2782	80	80	80	80	80	80
Four ball weld load, kg	ASTM D 2783	250	250	250	250	250	250
Load Wear Index	ASTM D 2783	52	52	52	52	52	52
FZG Gear test, Pass load stage A/8.3/90 A/16.6/90	DIN 51354-2	>12th >12th	>12th >12th	>12th >12th	>12th >12th	>12th >12th	>12th >12th
FZG Micro-pitting Test, Stage /Rating	FVA 54	10 / High	10 / High	10 / High	10 / High	10 / High	10 / High
Oxidation Stability, 121°C for 312hrs	ASTM D 2893	Pass	Pass	Pass	Pass	Pass	Pass
FAG FE-8 bearing wear test A] Roller wear, mg B] Cage wear, mg	DIN 51819-3	10 60	10 60	5 50	5 50	5 50	5 50

All the mentioned values are typical which may vary from batch to batch.

Storage and Handling

- Indoor Storage is always preferable
- Barrels should be kept horizontally with bunk position at 3 O'clock 9 O'clock position
- Barrels should be kept away from dusty or heated areas.
- During handling any contact with dust must be avoided

Health & Safety

This grade is not hazardous under normal conditions of use. For further guidance Material Safety Data Sheet (MSDS) may be referred.

Advice

For any further advice on applications or otherwise, please contact the nearest Bharat Petroleum territory office or Technical Services department at the address given below.

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