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OMEGA 693 X-Guard Synthetic Gear Oil



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X-Guard Synthetic Gear Oil

- *Extra Synthetic Protection to Enclosed Gear Units against Corrosion, Ageing, Micro-pitting, Scuffing, etc.*
- *Outstanding Demusibility Characteristics to Protect Against Moisture & Water Contamination*
- *Compatible with Seals and Coating Materials of Most Gear Units*

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SPECIAL FEATURES

OMEGA 693 X-Guard Synthetic Gear Oil is designed with innovative synthetic formulation beyond the performance of mineral base gear oils:

- **OMEGA 693** is formulated with 100% synthetic base fluid having much longer service life than mineral oils due to the excellent ageing, thermal and oxidation resistance at elevated temperatures.
- **OMEGA 693** offers unparalleled demulsibility to separate water, thereby protecting the gear units against moisture & water contamination.
- **OMEGA 693** provides exceptional fluidity to protect and lubricate gear units at extremely low temperatures.

OUTSTANDING PROPERTIES

Verified by a series of stringent tests, **OMEGA 693** offers the following outstanding properties:

- Superb corrosion resistance to protect gears exposed to corrosive environment.
- Very low traction fluid film to lubricate gear teeth; hence, increases gear efficiency and reduces energy consumption.
- Good compatibility with seal and coating materials of most gear systems, lowering risk of gear oil leakage due to damaged seals and coatings.
- Outstanding resistance to micro-pitting and scuffing which are common causes of premature gear failure.
- Super anti-foam property – reducing the lubrication & operation troubles caused by foaming.

USE FOR

OMEGA 693 is highly recommended for lubricating and protecting helical, bevel, and planetary gear units including geared motors.

Use **OMEGA 693** for applications beyond the limits of conventional mineral base gear oils:

- Protecting and lubricating all types of enclosed gear units in cement plants, general manufacturing plants, paper mills, power plants, steel mills, paper mills, wind farms, etc.
- Particularly suitable for enclosed gear units exposed to harsh operating conditions such as moisture, extremely low and/or high temperatures, etc.



Omega

The Ultimate Lubricant

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The Ultimate Lubricant

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DESCRIPTION:

Omega 693 X-Guard Synthetic Gear Oil is specially designed with synthetic base fluid and unique additive package to provide efficient protection and lubrication to enclosed gear units exposed to harsh service conditions at extremely high and low temperatures. Verified by a few stringent tests with outstanding chemical and physical properties, Omega 693 is recommended to be applied in the helical, bevel, and planetary gear units in almost all industries such as cement, chemicals, general manufacturing, mining, steel, power generation, wind energy, and so on.



Exceptional Oxidation & Thermal Stability:

Unlike most conventional mineral gear oil, Omega 693 is formulated with synthetic base fluid that carries exceptional oxidation and thermal stability. Effectively alleviating the deterioration of oil performance under thermal and oxidative stresses, Omega 693 extends the gear oil re-lubrication intervals for gear units frequently exposed to elevated temperatures. In addition, synthetically formulated, Omega 693 offers excellent fluidity at extremely low temperatures. Hence, Omega 693 is ideally suitable for most gear units exposed to extremely high or low temperatures and dramatic ambient temperature fluctuation.

Super Protection Against Micro-pitting and Wear:

Omega 693 provides super protection against wear and micro-pitting which are common causes of gear failure. Without proper inspection and/or test, micro-pitting is usually undetected. The potential damage to the gear teeth caused by micro-pitting cannot be ignored since micro-pitting will ultimately aggravate to cause premature gear unit failure. Verified by intensive tests including the demanding FZG scuffing and micro-pitting tests, Omega 693 offers excellent micro-pitting & wear resistance to lower the risk of premature failure of gear units operating under high and shock loads. Ultimately, Omega 693 reduces both maintenance and downtime costs and even increases gear efficiency.

Low Friction Fluid Film:

Omega 693 provides a very low friction lubricity film on the gear teeth and rolling bearings of gear units. Not only does this special property serve as an extra smooth protective fluid film against wears caused by metal-to-metal contact between gear teeth, it also increases the gear efficiency and hence reduces the energy consumption by the gear units.

Good Compatibility with Seal Materials & Coatings:

Evidenced by several material compatibility tests established by "Siemens - Flender Gear Units", Omega 693 can be applied safely on the seal materials and coating paints of most enclosed gear units, eliminating the potential hazard caused by many other gear oils on the seal materials and coatings of gear units. This surely saves considerable amount of extra maintenance resources required to keep the casing or parts of the gear systems in decent operating conditions.

Excellent Demulsibility Characteristics:

Formulated with deliberately calibrated amount of demulsibility agent, Omega 693 provides superb water separation ability that most other gear oils cannot match. By reducing the risk of water contamination, Omega 693 offers prolonged service life and extends the re-lubrication interval. Coupled with its outstanding resistance to corrosion, Omega 693 effectively protects the gear units frequently exposed to moisture and humid conditions.

Foam-Resistant

Ordinary oils have a tendency to foam under agitated conditions. This promotes oxidation and oxidation is the cause of lubricant breakdown and corrosion. Omega 693 however, has specially built-in foam inhibitors which ensure that the lubricant remains stable and unaerated during operation.

Performance Specifications:

Omega 693 is recommended to lubricate and protect helical, bevel, and planetary gear units and geared motors. Omega 693 meets and exceeds the following performance specifications:

- DIN 51517/3 CLP
- FLENDER Gear Approval Rev.9 for helical-, bevel, and planetary gear units
- US STEEL 224
- AGMA 9005-EO2
- ISO 12925-1 CKC/CKD
- Cincinnati Machine Gear

TYPICAL DATA:

TEST	TEST METHOD	TEST RESULT
Appearance	-	Transparent, Yellow
Density, gram / cc @ 15°C(59°F)	ASTM D-4052	0.86
Viscosity @ 40°C, cSt	ASTM D-445	320
Viscosity @ 100°C, cSt	ASTM D-445	36
Viscosity Index	ASTM D-2270	160
Flash Point, COC, °C(°F)	ASTM D-92	250
Pour Point, °C(°F)	ASTM D-97	-41
Copper Corrosion, level	ISO-2160	1a
Foam formation, ml/ml, ml/ml, ml/ml	ISO-6247	0/0, 40/0, 0/0
FZG test, A/8.3/90, load level	ISO-14635-1	>12
FZG Micro-pitting test	FVA-54	Pass
FAG FE8 test,	DIN-51819-3	
Roller weight loss, mg		< 30
Cage weight loss, mg		< 100
Water content, %	DIN-51777-2	< 0.1
Operating Temperatures, °C	-	-30 to 220

The characteristics given above are typical of current production only and slight batch to batch variations should be expected.