
Wind Power

*Customized Range of
High Performance Lubricants
for Wind Power*





A highly specialized lubricants to meet the most challenging applications of Wind Power Industry.

Specialty lubricants are used in wind turbines to meet the specific lubrication requirements of different components. ***Modern Wind Turbines are complex systems and the greases & oils used to lubricate components have to go through the most demanding tribological testing.***

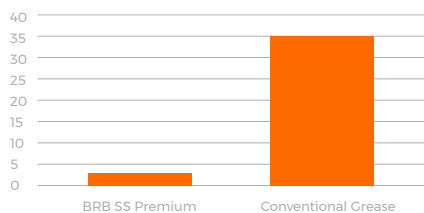
Performance expectations for lubricants used in wind turbines are higher due to the demand for extended life. Molygraph offers synthetic grease & oil formulations having excellent viscosity index & low pour points making them a lubricant of choice.

The critical areas of wind turbine lubrications are as follows:

- Pitch System
- Main Generator
- Yaw System
- Gearbox

OPERATING CONDITIONS

- | | |
|----------------------------------|-------------------|
| ➤ Extreme temperatures | ➤ Heavy Loads |
| ➤ Challenging weather conditions | ➤ Dust & Humidity |



FE-8 Rolling bearing test

BRB SS Premium

BRB SS Premium has been developed for the special requirements of roller bearings in wind turbines & other high load applications.

The most sought after FE-8 test serves to examine lubricating greases and oils with regards to their wear and friction behavior and forms the basis for estimating the service life of lubricants for rolling bearings under realistic conditions. The grease consists of a lithium soap thickener and a semi-synthetic base oil system that allows for incorporating an optimized additive package, specially suited for wind turbine systems and passing the FE-8 test.

Molygraph BRB SS Premium grease was tested at 80kN load and 80°C for 500 hours. Tests have shown the wear rate of 3 mg which is below < 5 mg.

GREASE

PRODUCT	THICKENER / OIL	BASE OIL VISCOSITY @ 40°C (cSt)	NLGI GRADE	DROPPING POINT (°C)	OPERATING TEMPERATURE (°C)
BRB SS PREMIUM	Lithium Complex / Synthetic	130	#1	+250	-40 / +150

Ultra Gear Syn Oils

Molygraph's Ultragear Syn Oils passes all the standard testing procedures as well as the critical FZG & FE8 tests.

Molygraph's range of synthetic gear oils are formulated with PAO base stocks and have an advanced proprietary additive to provide excellent protection against conventional wear modes such as scuffing and micro pitting.

The benefits of Molygraph's synthetic oils are related to the stable molecules, which include a higher degree of hydrolytic stability and demulsibility, a higher viscosity index (VI) and a lower pour point. They have inherently better oxidation stability than mineral oil, increasing the service life by upto x2 to x5 times.

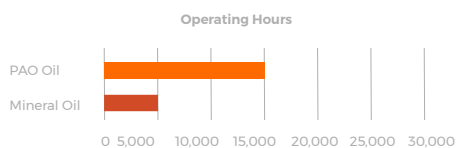
Molygraph's Ultragear Syn Oils passes all the standard testing procedures as well as the critical FZG & (ASTM D 5182); FE8 (DIN 51819-3) tests.

Best properties for optimum performance:

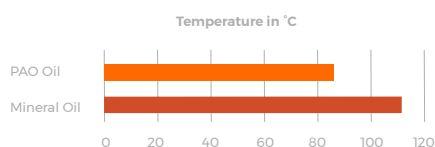
- Exceptional EP / anti-wear protection helps extend gear and bearing life
- Protection against rust and corrosion and good demulsibility in-service helps to ensure smooth, trouble-free operation at high temperatures or in applications subject to water contamination.
- High viscosity index equating to reduced viscosity change with temperature helps resistance to degradation at higher temperatures.
- Very good thermal and oxidative stability that reduces sludge formation and deposits resulting in longer service life.

OILS

PRODUCT	BASE OIL	BASE OIL VISCOSITY @ 40°C (cSt)	COPPER CORROSION (Rating)	POUR POINT (°C)	FLASH POINT (°C)
ULTRA GEAR SYN OILS	PAO	32 / 100 / 150 / 220 / 320 / 460 / 680 / 1000	1a	-48 / -45 / -45 / -39 / -36 / -33 / -27 / -24	220 / 220 / 220 / 225 / 225 / 225 / 230 / 240



Approximate oil change intervals of gear oils at an operating temperature of 80 °C



Oil sump temperatures after 300 operating hours

Extended Oil Change Intervals

Accelerating industrial performances across the world

Designed by empirici designs



Efficient lubrication solutions to drive industries forward

Molygraph is India's leading engineered lubricants company. For over 32 years we have mastered the art of making high quality speciality lubricants for various industries & applications. At the core of each of our products lies our strong emphasis on Research & Development and a deep understanding of the client's expectations, which helps us deliver optimal solutions.

The consultative selling approach lays emphasis on value creation for our clients & has led Molygraph to be a front runner in the speciality Lubricants market in India as well as developing a global footprint with a presence in over 25 countries around the world.

BUSINESS VERTICALS

- Animal Feed
- Automotive Components & Manufacturing
- Cement
- Food
- Forging
- Metal Cutting & Forming
- Mining
- MRO
- Oil & Gas
- Pharmaceutical
- Plastic Moulding
- Pulp & Paper
- Punching & Stamping
- Steel
- Sugar
- Textile
- Wind Power

PRODUCT LINE

- Aerosol Sprays
- Cleaners & Degreasers
- Dispersions
- Lubricating Greases & Pastes
- Lubricating Oils
- Metal Forming Fluids
- Rust Preventives
- Solid Lubricants
- Thread Dope Compounds

PRODUCT APPLICATIONS

- Bearings
- Chain & Wire Ropes
- Conveyor Chains
- Forging & Extrusion
- Gears
- Metal Cutting & Grinding
- Metal Punching & Stamping
- Nuts, Bolts & Threads
- Sheet Metal Drawing
- Valves

