Full range of special lubricants for wind power plants

**14 September 2022:** The spotlight is firmly on the uptake of clean energy sources as the government aims to increase its share of renewable energy in its energy mix from 11% to 41% by 2030. This means the deployment of 11.8 GW of large-scale renewable energy capacity, translating into significant opportunities for both investors and Independent Power Producers (IPPs).

Despite South Africa having some of the best solar and wind energy resources in the world, these only make up about 8% of the country’s energy mix at present. Solar and wind plants can be constructed in a two-year timeframe and have very low running costs.

Modern wind power plants must have the highest possible effectiveness to generate electricity efficiently. Optimum design of the machine elements is required to achieve this over a plant lifetime often exceeding 20 years. Minimising friction in the entire system is critical, but avoiding wear is even more important. Once the moving components such as roller bearings or gear wheels show initial signs of wear, this is irreversible, with a dramatic impact on the service life of components.

In particular, the pitch and yaw bearings in wind power plants are subject to high requirements from a tribological point of view due to the adverse environmental conditions. Conventional greases do not provide adequate wear protection in this instance. The use of solid lubricants has proven to be effective in isolating running surfaces and rolling elements from one another during static and mixed friction phases, thus preventing wear. Due to their high physio-mechanical pressure resistance, these solid lubricants, unlike oils and simple greases, remain between and isolate the surfaces of the components, even under high surface pressures.

Through many years of research activities involving close partners from the wind power industry, [FUCHS](http://www.fuchs.com/za) has succeeded in developing a special mixture of reactive white solid lubricants. Triggered by the action of a defined load, the white solid lubricants form a protective reactive layer on the contact surfaces. This reactive layer reduces friction and above all the wear of the components of the roller bearing.

When it comes to the maintenance of wind power plants, FUCHS offers a full range of special lubricants. “Whether in hot, cold, dry, or aggressive saline environments – wherever wind power stations generate energy – we do everything to ensure that no energy is lost unnecessarily,” comments **Ernst Bekker**, Specialist Technical Sales, Lubritech Division.

“We have developed specialty lubricants for this purpose which clearly contribute to reducing the wear on equipment and thus significantly reduce your maintenance effort and expenditure, all for ideally smooth generation with no loss of energy and with optimal frictional wear protection,” adds **Giles Cutter**, Export Divisional Manager.

For pitch and yaw bearings, GLEITMO 585 K is a well-proven, fully synthetic special lubricant containing reactive white solid lubricants. This synergistic combination offers excellent protection against wear, even under critical operation conditions like vibration and small oscillations under high load, which are typical for pitch and yaw bearings in wind turbines. It is also ideal for gear lubrication of pitch and yaw bearings using lubrication pinions.

STABYL LX 460 SYN is a fully synthetic high-performance grease developed especially for use in wind turbines. Due to its wide operating temperature range, high mechanical stability, and outstanding load-carrying capacity, this grease is ideal for the lubrication of the main rotor bearings. Moreover, it can also be used as a multifunctional grease in the demanding lubricating areas of azimuth and pitch bearings due to its special properties.

CEPLATTYN BL WHITE is a white adhesive lubricant with reactive solid lubricants. It is used as a lubricant for machines and machine components operating under difficult conditions and subject to extreme temperature fluctuations and environmental influences. A specialised application is the lubrication of azimuth and pitch gear rings in wind turbines.

URETHYN XHD 2 is a soft lubricating grease with a synthetic hydrocarbon base oil and a very temperature-resistant polyurea thickener. A selected additive package provides excellent wear protection, even at fluctuating speeds, temperatures, and loads.

**REFERENCES**

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<https://mybroadband.co.za/news/energy/452848-how-much-solar-and-wind-power-south-africa-needs-to-avoid-stage-6-load-shedding.html>

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“We have developed specialty lubricants for this purpose which clearly contribute to reducing the wear on equipment and thus significantly reduce your maintenance effort and expenditure.” – **Giles Cutter**, Export Divisional Manager, FUCHS LUBRICANTS SOUTH AFRICA

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***Ends***

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**About FUCHS**
FUCHS develops, produces, and markets high-grade lubricants and related specialties for virtually all industries Founded in 1931 as a family business in Mannheim, FUCHS is now the world's largest independent supplier of innovative lubricant solutions, covering almost every industry and application. Today, the company’s 6 000 employees in over 50 countries still share the same goal: To keep the world moving both sustainably and efficiently.

To live up to this claim, we think in terms of perfection, not merely standards. When developing individual solutions, we enter into an intensive customer dialogue – acting as an experienced consultant, innovative problem solver and reliable team partner. The results we provide meet not only the highest technological requirements, but also help customers save on operating costs and emissions. Because at FUCHS, sustainability is not simply an empty phrase, but a mindset – and thus the basis and aspiration of all our business activity.

**FUCHS LUBRICANTS SOUTH AFRICA Contact**

Kayla Van Vught

Marketing Specialist

Phone: (011) 565 9738

Email: kayla.vanvught@fuchs.com

Web: [www.fuchs.com/za](http://www.fuchs.com/za)

**Media Contact**

Rachel Mekgwe

Senior Account Executive

NGAGE Public Relations

Phone: (011) 867 7763

Fax: 086 512 3352

Cell: 074 212 1422

Email: rachel@ngage.co.za

Web: [www.ngage.co.za](http://www.ngage.co.za/)

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