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Press release

Liebherr-made grease for pitch and azimuth bearings

- Liebherr-made grease for pitch and azimuth bearings (Duro Wind PBG) has excellent wear and corrosion protection features, and is perfectly suited for use at low temperatures
- Duro Wind PBG shows outstanding results in extensive tests carried out by independent institutes

Liebherr has developed a lubricant, Duro Wind PBG (durable pitch bearing grease), for use in pitch and azimuth bearings of wind turbines. The grease ensures very low wear, and thus longer bearing life. Moreover, this effective lubrication shows outstanding results in terms of corrosion protection, be it moisture corrosion or false brinelling. Duro Wind PBG also impresses with its excellent characteristics at low temperatures.

Nussbaumen (Switzerland), October 7, 2022 – As smoothly as it runs, efficient lubrication by means of Duro Wind PBG provides maximum support for pitch bearings. The low to non-existent rotations in alternating directions and the extreme loads imposed by the rotor blades prove to be very demanding for pitch bearings. By optimally matching sliding and mixed friction, Duro Wind PBG significantly improves the lubrication properties of pitch and azimuth bearings. As a high-performance grease for the initial and relubrication of pitch bearings, Duro Wind PBG also contributes to a longer service life of a wind turbine.

Testing makes the difference

"Rolling bearing failures often prove to be the result of inadequate lubrication," explains Andreas Palmer, head of department for the development and design of slewing bearings at Liebherr-Components in Biberach (Germany). "Here, it is not only a matter of sufficient, clean lubricants, but also of choosing the right lubricant for each particular application," says Palmer. Therefore, Liebherr has tested fourteen different greases, including Duro Wind PBG. The focus thereby was primarily on wear protection, low-temperature properties and the tendency to false brinelling, a wear phenomenon in rolling bearings that occurs during oscillating movements at small pitch angles. The results showed considerable differences between the individual lubricants. Above all, the test series made it obvious that not only the optimum design, but also the combination with the right lubricant – Duro Wind PBG – was decisive for the best possible service life of the pitch bearings. Thus, when using Duro Wind PBG, there are no restrictions for pitch and azimuth bearings with IPC (individual pitch control) due to excellent surface protection against false brinelling and moisture corrosion.

Special greases. For special slewing bearings. From specialists.

It is known that every application has special requirements, which have to be met. Upon developing the Duro Wind PBG, the Liebherr-Components team relied on its long-term track record, extensive

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expertise and user experience in the fields of slewing bearings, lubricants and seals. "The interaction between the bearing design, sealing and lubrication proves to be crucial," concludes Palmer. "Lubrication as a design element determines the optimum extended service life of slewing bearings. Since they have to endure very high loads, appropriate lubrication is key for them." The Duro Wind PBG is already available worldwide and can be stored for up to three years. Liebherr grants an additional year of warranty for grease users.

About Liebherr-Components

In this segment, the Liebherr Group specialises in the development, design, manufacturing of high-performance components in the field of mechanical, hydraulic and electric drive and control technology. Liebherr-Component Technologies AG, based in Bulle (Switzerland), coordinates all activities in the Components product segment.

The extensive product range includes combustion engines, injection systems, engine control units, axial piston pumps and motors, hydraulic cylinders, slewing bearings, gearboxes and winches, switchgear, electronic and power electronics components, and software. The high-quality components are used in cranes and earthmoving machinery, in the mining industry, maritime applications, wind turbines, automotive engineering or in aviation and transport technology. Synergy effects in s other product segments of the Liebherr Group are used to drive continuous technological development.

About the Liebherr Group

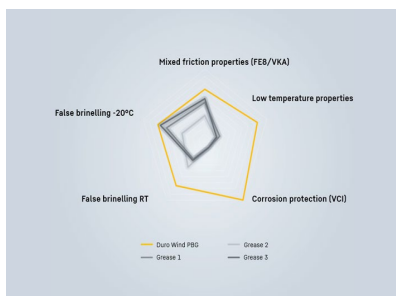
The Liebherr Group is a family-run technology company with a highly diversified product portfolio. The company is one of the largest construction equipment manufacturers in the world. It also provides high-quality and user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 140 companies across all continents. In 2021, it employed more than 49,000 staff and achieved combined revenues of over 11.6 billion euros. Liebherr was founded in Kirchdorf an der Iller in Southern Germany in 1949. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers.

Images



liebherr-durable-pitch-bearing-grease-duro-wind-pbg.jpg

Runs like clockwork: the Duro Wind PBG for pitch and azimuth bearings.



liebherr-duro-wind_PBG-grease-properties.jpg

Duro Wind PBG is walk-stable, oxidation and water-resistant with excellent corrosion and wear protection properties.

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