



WIND POWER

Reliable Sliding Bearing Materials for Modern Wind Turbines



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The current fast development of wind turbines design is creating many challenges to the component suppliers as the wind turbine operating conditions are becoming more and more demanding. Therefore, the turbine manufacturers must use high quality and reliable components. DEVA self-lubricating sliding bearing materials fulfill these requirements at its best and provide maximum reliability to the wind turbine.

DEVA application engineering team can support you in the design of your wind turbine. Once you provide DEVA with operating conditions and requirements of a wind turbine, the DEVA engineering delivers a tailor made bearing system for your design.

deva.metal® and deva.tex® Brake Pads — Materials for safe operation and long time use in Wind Turbine YAW Systems

Passive Yaw brakes are part of the YAW system and will be used to support the YAW drives by fixing the nacelle to the provisional end position in the wind and to prevent from oscillating. Brake pads made of deva.metal® or deva.tex® are maintenance-free and guarantee a constant coefficient of friction during their whole lifetime.

deva.tex® MRO sliding material was developed especially for wind yaw bearing applications. The material is maintenance-free but can also be greased due to protection of YAW rim against corrosion. Any eventual oil leakage will not affect the performance of the deva pads and deva segments.

deva.metal® brake pads

deva.metal® is a family of high performance, self-lubricating bearing materials. The deva.metal system is based on four main groups – bronze, iron, nickel and stainless steel – each containing dry solid lubricant, most commonly graphite, uniformly dispersed within the metal matrix. Important selection criteria are the sliding speed, specific load, temperature and other application specific influences. All deva.metal® alloys share a common metallurgical microstructure of a solid lubricant uniformly distributed throughout a metal matrix. The properties of the metal matrix determine the general physical, mechanical and chemical properties of the material and are the basis on which an initial alloy selection is made for a specific application.

deva.tex®

deva.tex® is a high performance composite, filament wound material, with a PTFE sliding layer and fiber reinforced backing layer. The machinable sliding layer consists of fibres which are embedded in an epoxy resin matrix. deva.tex® materials are suitable for applications which are subjected to high static and dynamic loads, relatively low sliding speeds and rotary, angular or linear motions. deva.tex® is also suitable for applications where conventional lubrication is not possible or permissible, or where other properties are required such as durability and resistance to operational and environmental influences or special conditions, e.g. impact load, abrasive stress etc. deva.tex® bearings can be produced in a wide variety of dimensions and shapes. It can be delivered as a plain bearing, a washer or segments which allows for large diameters. It is easy to install using press fit or super cooling and it can be delivered in several tolerances. deva.tex® materials offer a cost effective, high load and high reliability sliding bearing solution for modern wind turbines.





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Maintenance-free, self-lubricating Bearings

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