



Coatings for the Paper Industry

Customized Solutions for Rolling Bearings

Rolling bearings have a significantly longer operating life when the right coatings are used. The main advantages are:

- Increased slippage resistance
- Reduced frictional forces
- Bearings can be used as non-locating bearings
- A higher level of machine availability
- Cost savings

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Why use coatings?

The bearings used in paper machines have to withstand loads and friction of various kinds. Coatings optimize their wear and friction behavior. Schaeffler offers a range of different coating types for rolling bearings in paper machines, including:

- **Triondur® C:** Used with bearings subjected to heavy loads and ensures low frictional values. The tungsten carbide/carbon layer increases the wear resistance, minimizes the adhesive wear, and reduces slip strain.
- **Durotect® P:** Ensures good sliding behavior for the outside diameter with a very low coefficient of friction. For this reason, bearings with this coating are often used as non-locating bearings.
- **Durotect® Z:** Prevents fretting corrosion. The zinc phosphate coating reduces friction and thus facilitates the displacement of the bearing inside the housing.
- **Corrotect®:** Used to ensure corrosion protection using a galvanically applied cathodic anti-corrosion layer.

Our cost-saving tip

Schaeffler offers other cost-reducing solutions, e.g. for condition-based maintenance and vibration diagnosis, which makes it possible to visualize the axial vibrations that occur in paper machines. You can save costs too - and we are here to help you!

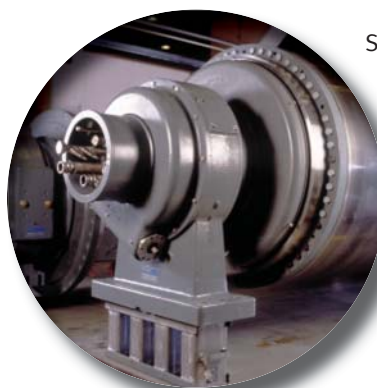
Contact: industrial-services@schaeffler.com

Further references

Find out about the solutions we have delivered for other customers' requirements by visiting:

www.global-technology-network.com

Challenge: Suction roll in the wet section



Schaeffler's task was to ensure that the customer's suction roll had the optimum axial displacement in order to reduce friction and increase the operating life of the rolling bearings.

Solution

Schaeffler coated the outside surface of the rolling bearing's outer ring with DUROTECT® Z with the suffix J33BH, thus also preventing future bearing failures.

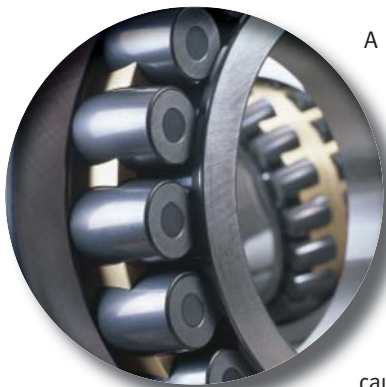
The zinc phosphate coating performs two essential functions here: The prevention of fretting corrosion and the reduction of friction.

Benefits for the customer

- The prevention of fretting corrosion in the bearing seat has a positive effect on the operating life of the bearing.
- The reduced friction facilitates the axial displacement in the housing.
- It was possible to achieve large total cost savings through the use of DUROTECT® Z.



Challenge: Calender with roller coating



A Chinese paper manufacturer wanted to reduce the risk of damage due to slippage from the outset. The reason for this was that a combination of insufficient loads and incorrect lubrication in the upper roller position was causing raceway damage.

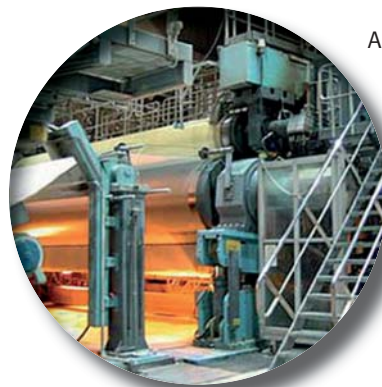
Solution

To prevent damage due to slippage under low loads, Schaeffler offers FAG spherical roller bearings that feature rolling elements coated with TRIONDUR® C. The bearing specification J48BB refers to the rolling elements' adamantine carbon coating. This extremely hard layer protects the bearing from damage even when slippage occurs.

Benefits for the customer

- Using rollers coated with TRIONDUR® C increases the operating life of the bearing.
- Damage due to slippage is prevented.
- The customer saved around € 50,000 in three years.

Challenge: Calender with outer ring coating



A Finnish company needed Schaeffler's support in preventing unexpected bearing failures due to axial load. The call for help came after frequent incidents that resulted in bearing damage.

Solution

Schaeffler installed an FAG spherical roller bearing with Durotect® P with the suffix J47AA on the outside surface of the outer ring as a non-locating bearing. This prevented unexpected bearing failures due to increased friction between the outer ring and the bearing housing. In contact areas subjected to loads, this coating ensures good sliding behavior with a low coefficient of friction.

Benefits for the customer

- Bearing life is extended by around five years due to the reduced axial load.
- The coefficient of friction is reduced by up to 85 percent.
- The total saving made through the use of Durotect® P and the appropriate training of the assembly personnel was around € 150,000.

More information



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