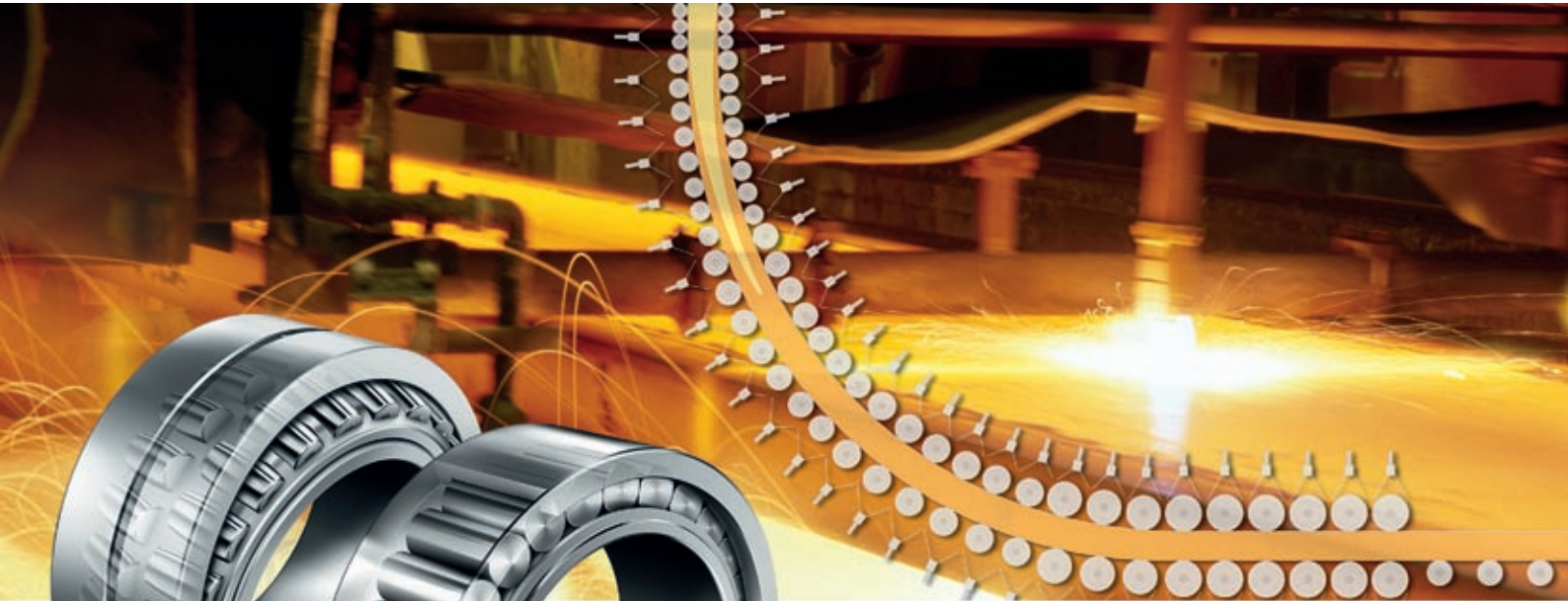




**FAG**



## The Bearing Solution for Strand Guide Rolls

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## Perfectly Harmonized Bearing Solutions from One Source

Schaeffler Group Industrial and its strong brands, INA and FAG, offers a high-performance product portfolio of unsurpassed quality. Within the “Heavy Industries” sector management, INA and FAG have combined their comprehensive product ranges for metallurgical plants and rolling mills in the “Steel and Non-Ferrous Metals” sector.

This includes bearing solutions for all bearing positions in plants that produce and form steel and non-ferrous metals. Schaeffler Group Industrial has an extraordinary level of expertise in this field, having worked with plant manufacturers and operators for several decades.

Numerous steelworks worldwide benefit from the quality of our customized solutions, which economically and safely enable increased productivity and the highest level of reliability.

With our CoCaB Program (Continuous Caster Bearing), Schaeffler Group Industrial offers bearing solutions that are perfectly tailored to the requirements of continuous casting plants.

The new FAG cylindrical roller bearing for strand guide rolls is the ideal bearing solution in this application, since it permits unconstrained axial displacement and can compensate angular misalignment.



### Rolling Bearings in Strand Guide Rolls

The cast strand is supported and tilted from the vertical to the horizontal by rolls that rotate very slowly. In order to limit the deflection, the rolls are supported throughout their length by several rolling bearings.

Cylindrical roller bearings and spherical roller bearings from FAG are used in the bearing supports of the rolls. INA needle roller bearings are used in the upper

segments. Split FAG spherical roller bearings and INA cylindrical roller bearings are used in driven rolls. Special FAG bearing housings with circulating cooling water complete the product range.

The operating conditions in continuous casting plants place extremely high demands on the bearings used. The rolling bearings are subjected to high loads at low speeds, and must operate reliably despite high temperatures and water spray.

## Reliable Bearings for Extremely Heavy Loads

### FAG Spherical Roller Bearings as Locating Bearings

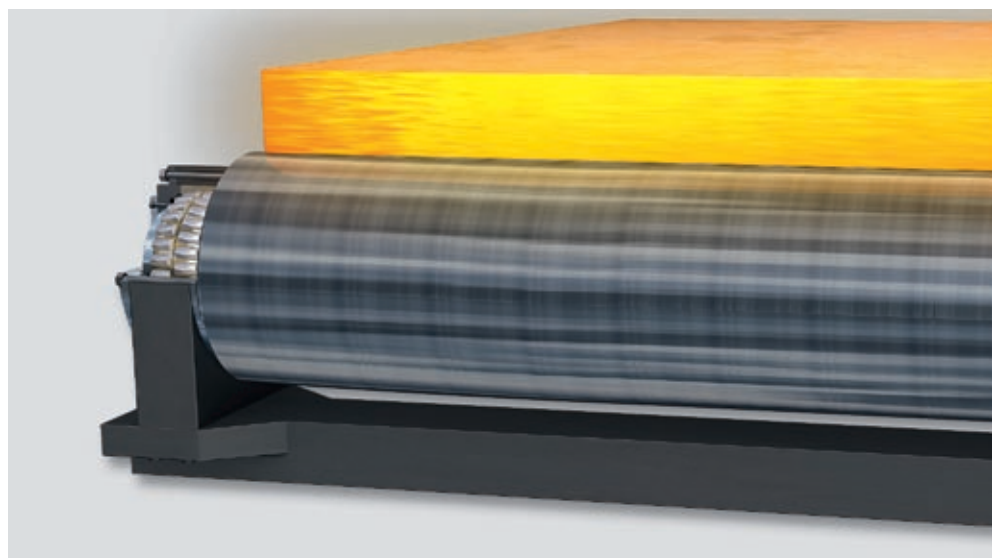
FAG spherical roller bearings are used in all kinds of applications where heavy loads must be accommodated or where shaft deflections or misalignments of bearing seats must be compensated for. They operate reliably in the harshest of operating conditions.

High radial and axial forces as well as tilting occur especially on the locating bearing side of strand guide rolls.

### New Sheet Steel Cage

The bearing kinematics of the spherical roller bearings have been improved with a revised internal construction. Series 240 and 241 up to an outer diameter of 320 mm are supplied with the new sheet steel cage.

The split cage is resistant to high temperatures and therefore especially suitable



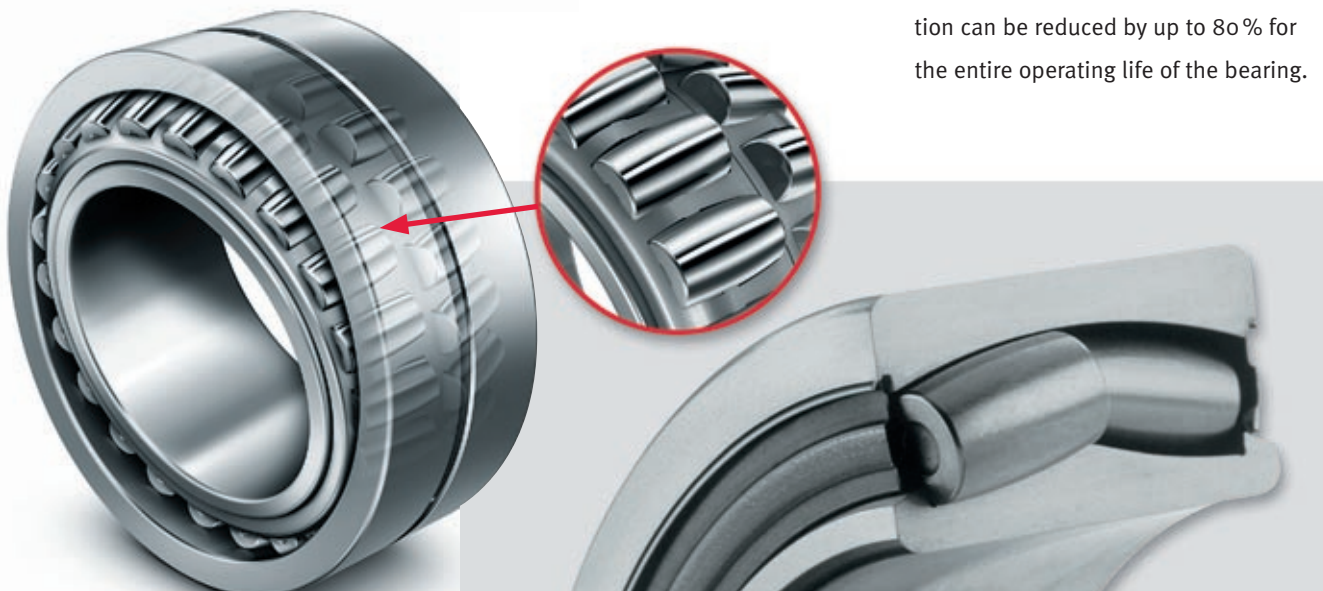
Strand guide roll

for the extreme operating conditions in continuous casting plants. The cage design ensures optimal guidance of the rollers. There is now more space inside the bearing for the lubricant.

Operational safety and cost-efficiency have been increased.

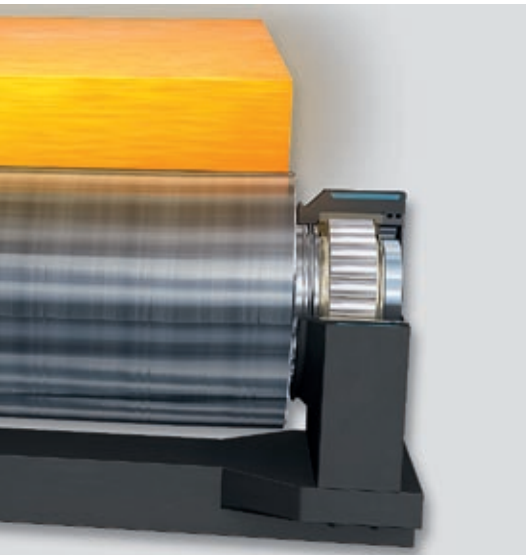
### Sealed Spherical Roller Bearings

The numerous spherical roller bearings in continuous casting plants require large amounts of grease. Practical experience has shown that sealed spherical roller bearings offer a cost-effective and environmentally-friendly alternative. Compared with unsealed bearings, the grease consumption can be reduced by up to 80% for the entire operating life of the bearing.



Reduced grease consumption with sealed spherical roller bearings

## The Ideal Non-Locating Bearing



### High Demands on Non-Locating Bearings

Non-locating bearings in continuous casting plants must smoothly compensate the linear expansion of the shafts as well as shaft deflection. The high loads require bearings with a high static load carrying capacity. Conventional non-locating

bearing solutions are usually a compromise and do not offer an optimal solution to these requirements.

The new FAG cylindrical roller bearing combines the advantages of full complement cylindrical roller bearings with the features of a spherical roller bearing. This involves high radial load carrying capacity, unconstrained axial movement and angular misalignment compensation. All these features are combined in one bearing which can be mounted quickly and easily. This ideal non-locating bearing has already proven itself in several strand guide rolls.

### FAG Cylindrical Roller Bearings

The new full complement cylindrical roller bearing with anti-corrosion protection has been specially developed for operation as a non-locating bearing in continuous casting plants. This bearing has an

extremely high load carrying capacity due to the inner construction, which was specially designed for the available space.

Shaft expansion is smoothly compensated and equal load conditions are ensured in all axial displacement positions. The special raceway profile also facilitates the compensation of angular misalignments. The Corrotect® plating on the rings protects the bearing against corrosion and fretting.

No special tools are required for mounting and removing the bearings. FAG cylindrical roller bearings for continuous casting plants are in accordance with DIN/ISO dimensions and can be mounted in the available space without any retrofitting.

### High Operational Safety and Plant Availability

Significantly longer operating life due to very high radial load carrying capacity.

### Ideal Non-Locating Bearing Solution

Axial displacement without constraining forces and compensation of angular misalignment.

### Low Maintenance Requirement

Simple to mount and remove without special tools.



## Service for More Operational Safety and Cost-Efficiency



High-quality products and excellent service belong together. This is why Schaeffler Group Industrial not only offers first-class bearing solutions, but also sector-specific services in order to increase the productivity and efficiency of equipment in steel plants. The range extends from the design and selection of suitable bearings, through mounting and lubrication to rolling bearing condition monitoring and reconditioning.

### Expert Technical Consultation

The “Steel and Non-Ferrous Metals” segment of Schaeffler’s “Heavy Industries” sector management offers technical consultation for all aspects of the life cycle of rotating components as part of our TCO (Total Cost of Ownership) concept.

Our experts possess expert knowledge in bearing technology as well as comprehensive know-how in steelworks and rolling

mill applications. Customers can expect first class consultation and support with bearing design and product selection. Schaeffler supports customers during the planning and execution of maintenance tasks during operation.

### Service Worldwide

FAG Industrial Services (F’IS), Schaeffler Group Industrial’s service company, is responsible for our service business and

offers maintenance and quality assurance solutions worldwide, including non-FAG/INA bearings. F’IS enables its customers to reduce maintenance costs, to optimize plant availability and to avoid unplanned plant downtime. In addition, F’IS also offers a wide range of training and consultation services for rolling bearing mounting and condition monitoring.

### Reconditioning of Rolling Bearings

Our range of reconditioning services for rolling bearings reduces maintenance costs and increases availability.

The reconditioning process includes the following services:

- Dismantling of the bearing
- Cleaning all components
- Inspecting the components
- Reconditioning the bearing
- Reassembling the bearing
- Shipping





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