



Customer Success Story

Plain Bearings Move Heavyweight Radial Gates

Maintenance-free spherical plain bearings from Schaeffler were the number one choice for a new dam construction project in Vietnam. They ensure that the 19 radial gates remain moveable, allowing the lock to be reliably opened and closed, despite high water pressure.

Advantages

- Maintenance-free spherical plain bearings withstand high loads and temperature fluctuations.
- Thanks to ELGOGLIDE no lubrication necessary.
- The bearings are characterized by a long service life and low friction.
- An additional seal protects against contamination.
- Holistic engineering support from Schaeffler.



Customer
Nam Anh, Vietnam

Sector
Construction

Application
Bearing application for radial gates

Solution
Maintenance-free spherical plain bearings

What our customer drives ...

Challenge

The Tra Khuc River Downstream Dam is located in Quang Ngai city, in Quang Ngai province, central Vietnam, approximately 900 km from Hanoi. The objective of the dam project is to regulate the water level of the Tra Khuc River in order to improve the environment in Quang Ngai city and create transportation waterways to the neighboring cities. In the construction of the dam, 19 radial gates were integrated for water regulation. These moveable assemblies require high-performance and durable bearing designs. Water pressure and the weight of the lock act as a single-direction load on the spherical plain bearings, making it almost impossible to lubricate the bearings subjected to such load zones. Despite these extreme conditions, the lock gates must still be able to slide at low speeds to open and close the gates.



The dam regulates the water level of the region.



Gigantic: There are great expectations for the construction of the dam in the province of Quang Ngai.

Technical Information about the dam

Length 947 m, height 5.5 m

Completion of dam in 2022,
bearings installed in 2020

Additional features

The dam consists of 19 river compartment gates,
with a total length of 718.2 m

Each compartment gate is 37.8 m long

Four overflow chambers; the total width of the
spillways is 143.8 m

Bridges and roads on the dam have a total length of
974.2 m and width of 12 m wide

Maintenance-free spherical plain bearings ensure that
the radial gates can be reliably opened and closed.

What Schaeffler offers ...

Solution

Schaeffler maintenance-free spherical plain bearings with ELGOGLIDE were chosen due to the ELGOGLIDE sliding layer in the outer ring. With this special sliding layer, the bearing does not require any lubrication and is able to withstand high loads, high temperature fluctuations and is sealed from contaminants. In addition, the bearing is also able to provide low-friction and moment-free transfer of loads, making it an ideal bearing for the dam application.

Spherical plain bearings with ELGOGLIDE

Our Elgoglide brand uses high-performance, maintenance-free sliding materials that are based on Teflon fabric.

Suitable for dynamic loads at contact pressures ranging from 1 to 3000 MPa, they are particularly appropriate for applications that require minimal friction.



Technical information about the solution

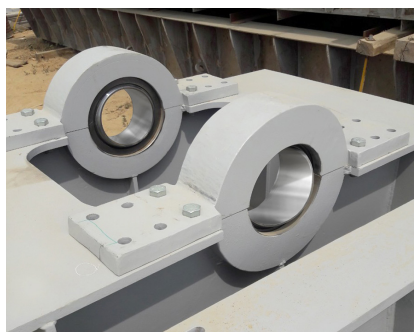
Application	Guide wheels in the radial gates
Bearing type	76 maintenance-free spherical plain bearings
Bearing designation	GE200-UK-2RS
Dimensions (mm)	D 290 x d 200 x B 130
Weight	28 kg
Contact pressure	150 N/mm ²
Special features	ELGOGLIDE sliding layer in the outer ring Additional seals

What's special

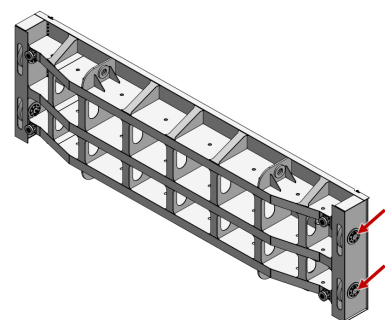
Thanks to the close collaboration between Schaeffler Vietnam and Nam Anh, Quang Ngai city can regulate the water level to improve on the transportation waterways, thereby contributing to the urban development expansion plan.



Meeting of the planning team.



Schaeffler spherical plain bearings mounted on one of the radial gates.



Dam gate equipped with Schaeffler plain bearings in the guide wheels.

What our customer says ...

Thanks to ELGOGLIDE, the bearings can support extremely high loads and require zero maintenance. This ensures a long service life, even given the extreme contact pressure of 150 N/mm² acting on the radial spherical plain bearings. All these features are key factors in safety and maintenance costs. Furthermore, we are delighted that Schaeffler has supported us extensively in this project.

Mr. Nguyen Binh Minh, Deputy Managing Director of Nam Anh Technology Construction Equipment Co. Ltd.

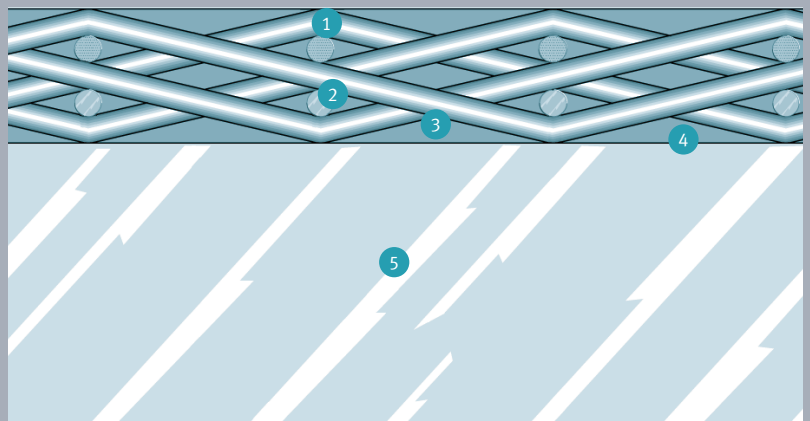
What is ELGOGLIDE?

A simple formula explains it:

PTFE fabric consisting of

- 1 Teflon
- 2 Support fibres
- 3 + Resin matrix
- 4 + Bonding on the
- 5 steel support body

= ELGOGLIDE



Customer

Established in 2008, Nam Anh has many years of experience in the field of distribution of materials and in the supply and installation of equipment and systems with diverse technology solutions for construction projects in civil and industrial construction, including transportation infrastructure. The Tra Khuc River Downstream Dam was one of the key projects undertaken by Nam Anh.