



Plain Bearings with ELGOTEX®

Water resistant and maintenance-free

SCHAEFFLER



SCHAEFFLER: YOUR SYSTEMS PARTNER

We manufacture and sell a wide range of high-quality plain bearings, including maintenance-free filament-wound plain bearings with ELGOTEX[®], under our INA brand. This material is one of the newest developments to come out of Schaeffler's Competence Center for Friction and Sliding Materials in Industrial Applications. Thanks to the many years of experience we have gathered in the automotive sector, we have an extensive range of test facilities and test stands at our disposal that enable us to verify the capabilities of our products before they are used in practice.

Plain bearings with ELGOTEX®: The product benefits at a glance

Feature	Advantages	Customer benefits
PTFE dry lubricant	Maintenance-free	Cost-effective and environmentally friendly
Non-metallic	Low weight, amagnetic	Easy to handle and install
	Resistant to shocks and vibrations	Suitable even for demanding conditions
Fiber	High radial load carrying capacity	Can be installed in small design envelopes
composite	High media resistance	Suitable for operation in harsh environments, even in salt water
material	Good tribological characteristics	Wear resistant with a constant friction value
	Electrical insulator	Protects against damage due to the passage of current



ELGOTEX[®]: The environmentally friendly alternative

Bearing positions subjected to high loads, for example in construction machinery, conveying equipment, transport vehicles, and agricultural machinery, are usually equipped with machined metallic plain bearings that are lubricated with grease or oil. Plain bearings with ELGOTEX[®] are an environmentally friendly technology that provides the ideal solution for replacing bronze or steel bearings requiring maintenance. They are particularly suitable for dry running applications that are subjected to high loads and vibrations. These bearings are maintenance-free throughout their service life thanks to their material compostion. The ELGOTEX[®] WA material was developed by Schaeffler for use in water.

Where do these bearings deliver the most benefit?

Plain bearings with ELGOTEX[®] are a technically and economically profitable alternative solution for applications with the following requirements:

- High loads, including shock loads
- High edge pressures
- Rotary, axial, and in particular oscillatory motion
- Good vibration damping
- Resistance to corrosive media









Solar power plants



100 = inside diameter (

115 = outside diameter

120 = width ()

RS = with standard lip



• For use in water

1

Microsection of a plain bearing with **ELGOTEX**®

1 Sliding layer 2 Backing

ELGOTEX[®] material comprises two layers that are wound onto each other. The internal sliding layer, which is embedded in a resin matrix with fillers and solid lubricants, is composed of various fibers, particularly PTFE. The outer layer consists of continuous glass fibers in epoxy resin and provides a high level of strength.



Performance capacity of ELGOTEX® material

WA = ELGOTEX[®] WA version standard lip seal on both sides seal on one side

ELGOTEX® WA

Schaeffler has developed a maintenance-free plain bearing that is suitable for use directly in seawater and offers excellent performance with water in the sliding contact zone.

Innovative material

The cylindrical filament-wound plain bearings have a sliding layer made from ELGOTEX® WA and contain two layers. The internal sliding layer is water-repellent and therefore dimensionally stable, while the glass fiber-reinforced backing gives the bearing its rigidity.

Bearings for large diameters

Unlike the standard ELGOTEX[®] version, ELGOTEX[®] WA was specially developed for use in (salt) water. The yarn and the resin matrix are customized to accommodate operation in water. The high level of versatility in our manufacturing process means that we can create customer-specific bearing solutions with diameters of up to 1.4 meters.

Examples of typical applications

Shipbuilding is an important area of application. ELGOTEX® WA is also well suited to applications in marine engineering, hydraulic steel construction, hydroelectric power plants, and pumps and turbines.



Salt water resistance is a must: AlbaTERN's concept generates energy from ocean waves

Fully equipped for use in the sea

AlbaTERN is developing a new technological concept on the coast of Scotland for using the energy of ocean waves to generate low-cost electricity. This employs a number of floating bodies that are set in motion by the waves. Hydraulic cylinders generate hydraulic pressure from the relative motion between the components, and this pressure is then used to drive a generator. Plain bearings made from ELGOTEX® WA are able to demonstrate their capabilities in the bearing positions found in this unique construction.





Proven performance: Rudder carrier bearing support with ELGOTEX®WA plain bearings

Certified performance for marine applications

Rudder bearings are safety-relevant components and are therefore monitored by classification agencies such as Lloyd, Lloyd's Register, DNV, and Germanischer Lloyd. This means that the bearing positions, the bearing itself, and the bearing design have to be certified prior to installation. For this purpose, Schaeffler has completed a comprehensive series of tests based on a specification provided by Germanischer Lloyd that fully verifies the functionality of the plain bearings.

The performance of INA plain bearings with ELGOTEX® WA in salt water has been certified by Germanischer Lloyd in accordance with MCM-0112. This approval is valid for rudder carrier bearings, shaft bearings, pintle bearings, and stabilizer bearings. Schaeffler is the first manufacturer to receive approval from this classification agency for a maximum bearing contact pressure of 15 N/mm².

Schaeffler Technologies GmbH & Co. KG

Industriestrasse 1 – 3 91074 Herzogenaurach Germany Internet www.schaeffler.com E-Mail info@schaeffler.com In Germany: Phone 0180 5003872 Fax 0180 5003873 From other countries: Phone +49 9132 82-0 Fax +49 9132 82-4950 Every care has been taken to ensure the correctness of the information contained in this publication but no liability can be accepted for any errors or omissions. We reserve the right to make technical changes.

© Schaeffler Technologies GmbH & Co. KG Issued: 2014, January

This publication or parts thereof may not be reproduced without our permission.