

**Press release**

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fischer outdoor exposure rigs on the island of Heligoland

## **Putting steel products to the test**

**Salty sea air and high humidity: the fischer Group of Companies is testing the corrosion resistance of its steel products on the German island of Heligoland.**

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The steel fixing products of the fischer Group of Companies travel back to the island again and again. They travel by car from the production site in Tumlingen to the Port of Hamburg from where they cross by ferry to Heligoland, Germany's only deep-sea island.

Here, in the midst of the North Sea, the steel products find their new home for the next few years, situated on test rigs on just one square kilometre of "red rock". The test rigs don't always go unnoticed by the tourists who arrive at the nearby southern Harbour by catamaran or boat. The purpose of the anchors, screws and components carefully arranged on aligned plates or concrete and wood blocks does not always immediately become apparent.

The setup is an outdoor exposure rig, which the fischer Group of Companies has been transferring its products to since 2006 in order to examine their corrosion behaviour. This involves testing whether the steel changes due to the physical or chemical reaction with its environment, thereby impairing the product's function. "Heligoland is a highly corrosive area", explains Sebastian Schilling, who is responsible for the corrosion and

materials test laboratory of the fischer Group of Companies. “Our steel products are exposed to the damp environment and the high salt content in the air, especially since the test rigs are situated close to the harbour”. fischer tests its fixing solutions for their corrosion behaviour on their own as well as anchored in concrete, wood, natural stone or as a multicomponent system, for instance set up as a thermal insulation system. “The samples are documented, removed or replaced at least once a year”, Schilling says. “We test products with new materials or surface coatings on Heligoland in assessable timeframes and under real conditions”.

### **Practical tests increase safety**

These tests are important, as in Germany alone corrosion causes annual costs amounting to billions, not to mention accidents and injuries. One memorable example is the collapse of the roof of the Kongresshalle conference hall in Berlin in May 1980. One person died in the building’s wreckage. The collapse was caused by rust on load-bearing elements. There was also an unforgettable incident on the coast of Brittany in 1999: 11,000 tonnes of oil spilled into the sea through the rusting hull of the “Erika” tanker, polluting 500 kilometres of beach. Corrosion damage to fixings can be just as fatal. This was the reason why a 200-tonne concrete roof of the Uster indoor pool in Zurich collapsed in 1985, burying 40 people beneath it. 12 people lost their lives in the accident. In order to prevent tragic incidents such as these, projects require professional corrosion protection for the smallest components such as steel anchors. Suitable materials and measures vary depending on the environmental conditions.

“Facades, roofs and other structural components can collapse due to corroded fixings”, Sebastian Schilling confirms. “Which is why we test our steel products in real conditions. This allows us

to protect projects from corrosion and therefore prevent accidents, injuries and high costs". The fischer Group of Companies operates additional test rigs, for example in the Gotthard Road Tunnel as well as the Wersten (Düsseldorf) and Burgholz (Wuppertal) tunnels. Additional facilities are due to be set up at production sites of the fischer Group of Companies, thereby covering all of the prevailing global climate zones.

The results of the tests are directly incorporated into fischer's technical recommendations, publications, presentations and committee activities.

### **Image captions:**

#### Image 1



*Heligoland offers ideal conditions for testing steel products in a damp and salty environment.*

*Image: © Bernd Friedel / 123rf*

Image 2



*The fischer Group of Companies exposes its steel products to hardness tests on test rigs located on Heligoland in order to offer its customers the best possible protection from corrosion.*

*Image: fischer*

Image 3



*The corrosion behaviour of fischer's installation and facade systems is also being examined on Heligoland. Pictured at the front: fischer concrete screws made of various materials and surface coatings.*

*Image: fischer*

## **The fischer Group of Companies**

The fischer Group of Companies, headquartered in Waldachtal in Germany's Northern Black Forest, generated sales of 864 million Euros in 2018 with a worldwide staff of 5,200 employees. The family-owned enterprise operates 47 of its companies in 35 countries and exports to more than 100 countries. It includes the five divisions: fischer fixing systems, fischer automotive systems, fischertechnik, fischer consulting and LNT Automation.

fischer fixing systems is the technological market leader in important areas of fixing technology. fischer offers products that deliver technical perfection to a wide range of customers, from do-it-yourselfers to craftsmen to key account partners.

fischer automotive systems manufactures high-quality parts for car interiors. The company is highly competent in the plastics processing segment and is an important partner for the automotive industry. fischer automotive systems produces air vents, cup holders, trays and multi-function components.

fischertechnik is active both in the construction kit and in the educational toy sector. As one of the last toy makers, fischertechnik develops and produces exclusively in Germany.

fischer consulting evolved from the competence and skills developed in the company itself, among these the fischer ProcessSystem with its central aim of permanent and continuous improvement for the ultimate benefit of the customer. fischer consulting advises small and medium-sized businesses, government agencies and major companies on their way towards lean and efficient processes.

LNT Automation develops and manufactures custom electronic solutions. The company also develops, produces and distributes custom and capacitive touch systems such as multi-touch solutions made of glass and the corresponding controller units. All electronics are manufactured in-house.

[www.fischer.group](http://www.fischer.group)

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