



**ARMINOX<sup>®</sup>**  
*Stainless*

**STAINLESS REINFORCEMENT**





# The Intelligent Choice

ARMINOX® stainless steel reinforcement - the most maintenance free and economic solution for the construction industry in the world.



Steel is the backbone of many constructions. Therefore quality and durability are essential. ARMINOX® secures the best and the most durable solutions.

We also know where and when it is worth selecting the individual steel qualities. In short: We offer our experience and expertise to select the right stainless steel for the project and help save our customers money!

ARMINOX® stainless steel reinforcement does not rust. Used for concrete structures it is therefore the certain way of avoiding corrosion related damage to the concrete – and subsequently comprehensive and expensive renovation.

Using ARMINOX® stainless steel reinforcement you are choosing the luxury solution. Our engineers know exactly, where it pays to use it. By intelligent use of stainless steel we assure a positive outcome to the bottom line.



# The Pier that Disappeared



Carbon steel

A discovery in Mexico put ARMINOX® on the track of a successful product development



Arminox® stainless steel reinforcement

During a journey to Mexico in 1998 an engineer from ARMINOX® noted a remarkable fact. In Progreso were two maritime structures.

A pier, constructed and built by the international contractor company, Christiani & Nielsen completed 1941.

Close to this pier, in about 1970 another pier for larger ships was built. By 1998 the latter pier had collapsed due to corrosion.

The older pier remained upright and maintenance free.

The secret of the pier is invisible. It is hidden in the columns of the pier, reinforced by stainless steel, a comprehensive independent report revealed.

This report became one of the main pillars in ARMINOX®' innovative development of stainless steel reinforcement products.



# Forever Strong

Corrosion free concrete structures are an advantage to the bottom line. ARMINOX® reinforcing steel guarantees this 100%.

We know how it should be used: For the critical parts of all structures which are at risk from corrosion. For example where the piers of a bridge come into contact with sea water; where the columns abut bridge decks; where it is impossible to maintain or repair a structure. If renovation is carried out with stainless reinforcement future corrosion damage is prevented.



# Intelligent Use of ARMINOX®



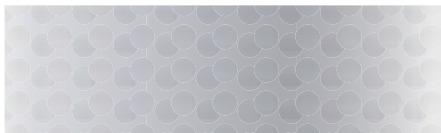
Price and quality go together, and it is no secret that stainless steel reinforcement is more expensive than ordinary steel. But in the long-term choosing ARMINOX® reinforcing steel is a much more cost effective solution.

Structures last longer – with direct economic benefit to the bottom line. We know how to use the individual qualities intelligently. The philosophy is clear:

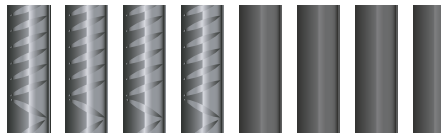
ARMINOX® reinforcing steel should be used intelligently, in that way the most cost-effective solution is achieved.

ARMINOX® reinforcing steel is designed for the critical points in concrete structures, where corrosion risk is commonly recognised.

Fortunately ARMINOX® stainless reinforcing steel can be connected to black reinforcing steel without any problems, and without any risk at all of galvanic corrosion. Besides ARMINOX® stainless reinforcement renders the addition of expensive corrosion protection chemicals superfluous. Equally in most cases the sealing coat can be reduced with 30 to 50%.



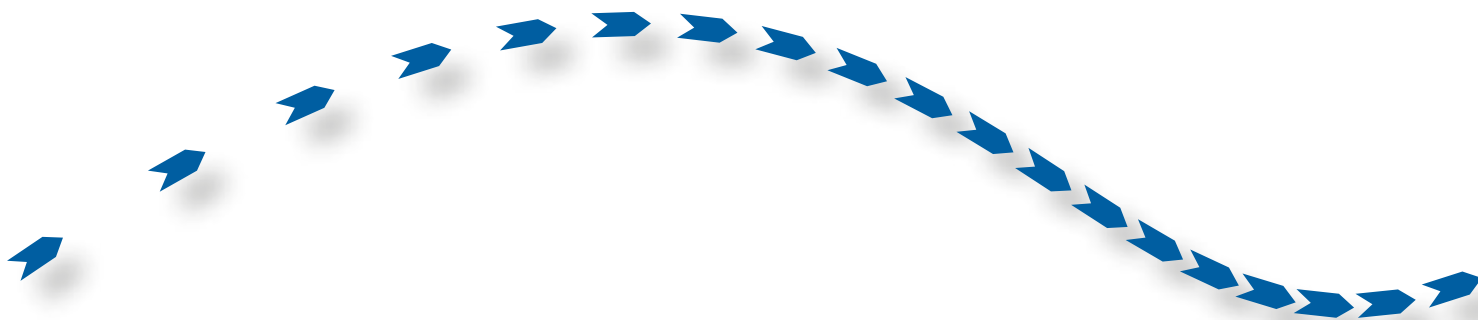
Concrete sealing coat



ARMINOX®  
stainless reinforcement



Black reinforcement





# Sound Economy

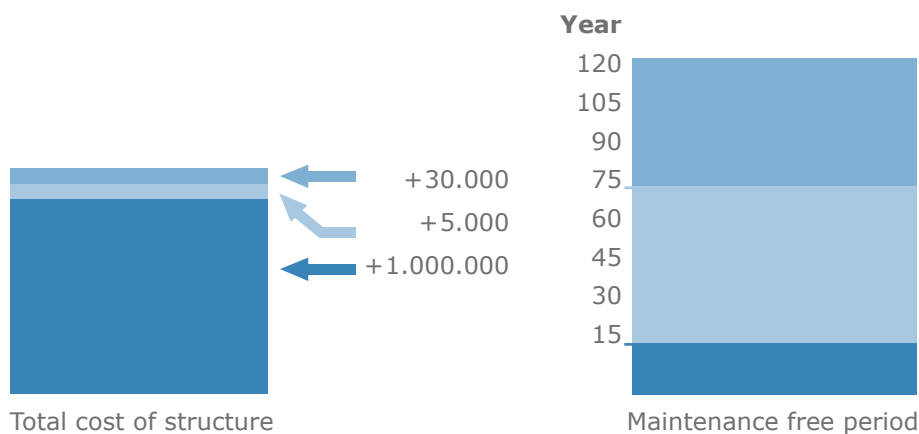
## Economy by intelligent use of ARMINOX® stainless reinforcement

Stainless reinforcement combined with traditional carbon steel reinforcement.

Intelligent reinforcement  
Medium- and high aggressive environment  
Extra cost: +3% of traditional structure

Intelligent reinforcement  
Low aggressive environment  
Extra cost: +0.5% of traditional structure

Traditional carbon steel reinforcement



Viewed in isolation, ARMINOX® stainless reinforcing steel will appear to be an efficient but relatively expensive solution to the problem of corrosion. However, calculations made by leading international engineering companies show that the

intelligent application of stainless reinforcing steel is a highly cost-effective solution.

L.C.C. analysis show that the very low additional construction investment (0.5 – max. 3%) will be recovered within a few years.

# More than Just Steel

## Roads and Traffic Systems

- bridges
- tunnels
- parking stations
- airports

## Maritime Environments

- offshore industry
- harbour installations
- piers
- dams
- ferry berths

## Renovation

- historic buildings

## Industry

- petrochemical enterprises
- large industrial complexes
- waste water treatment plants
- nuclear power plants

## High Risk and High Tech

- military installations
- laboratories (with particularly sensitive measuring equipment)
- buildings with special/extreme design
- refineries

ARMINOX® is one of the world's leading suppliers of stainless steel reinforcement for use in the construction industry all over the world. Our strength lies not only in the steel, but particularly in our great experience and know-how. This relates to both the development as well as intelligent use of stainless steel reinforcement.

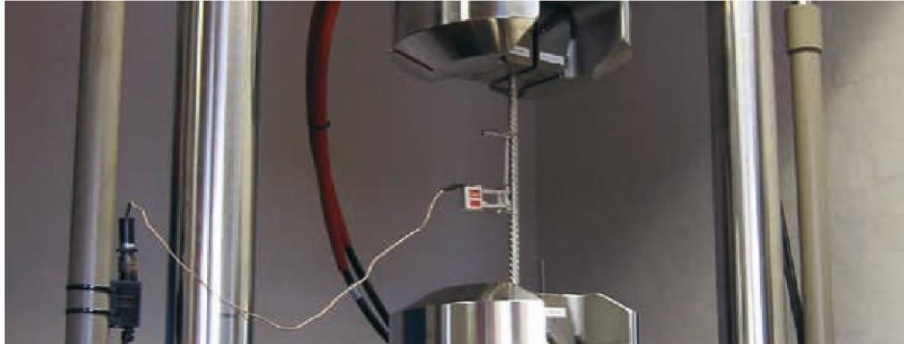
Internationally ARMINOX® was among the first to develop greater awareness and understanding of stainless steel reinforcement. Our products and know-how develop constantly, for instance through cooperation with national and international research institutions, consulting engineers, and steel manufacturers.

Therefore we know all about the importance of good and long lasting partnerships with our customers, as well as the need for choosing first class materials.

ARMINOX® is certified in accordance with recognized international product standards, and ARMINOX® stainless reinforcing steel can be used for new buildings and renovation purposes in an aggressive environment, where damage to concrete structures occur.



# Quality and Control



In order to secure our high quality, our production and quality assurance are continuously monitored by several international supervisory bodies, such as UK Cares, Kontrollrådet in Norway, and Force Technology in Denmark. Also continuous internal checks are made in our own laboratory. All data and results are saved in our own data bank.

Certificates indicating chemical composition and mechanical properties accompany all supplies of ARMINOX® stainless reinforcing steel.

ARMINOX® products can be identified several years after embedding by the special stamp applied during production.

ARMINOX® is ISO 9001 certified. ARMINOX® stainless reinforcing steel is certified according to:

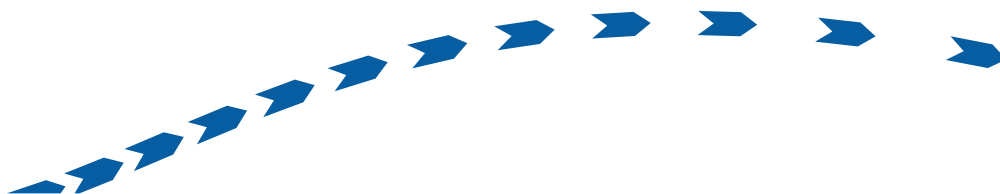
British Standard BS 6744, BS 8666. Kontrollrådet in Norway.



Validate with the Cares Cloud App



Validate with the Cares Cloud App





# Traffic



In connection with extension of the motorway system in Copenhagen, Denmark, the bridges around Motorring 3 were built with ARMINOX® stainless reinforcing steel. By using stainless steel reinforcement in the concrete structures, the bridges are maintenance free for the next 75 years – a long term investment, saving the Danish state several millions Danish kroner in maintenance costs.



# Bridge Building



Shenzhen Western Corridor  
in Hong Kong

Shenzhen Western Corridor in Hong Kong is an international bridge project, connecting Hong Kong and China.

Using ARMINOX® stainless reinforcing steel for all critical structures of the bridge, the customer avoided all the inconveniences of repairs for the next 120 years – and so, of course saving money.

## Maritime Environment



Pier at Blackpool  
in England

In Blackpool, on the west coast of England, the tide caused big problems on the sea front wall. The concrete structures corroded due to the changing wind conditions and the salty water.

For a new seawall in the seaside town, ARMINOX® stainless reinforcing

steel was considered from the very start. In the intelligent way. The steel was used, where the water normally hits the seawall in connection with the alternating tides.

A wise solution, which is maintenance free for the next 75 years.



# Buildings



Six-lane motorway between Abu Dhabi and the mainland of the United Arab Emirates

In 2003, the government in Abu Dhabi decided to build a third transport link between Abu Dhabi and the mainland of the United Arab Emirates.

The reputable architect Zaha Hadid was commissioned to design a monument which, at the same time, could act as a six-lane motorway across the 600 metres wide canal.

It was essential that the design had a maintenance free life expectancy of minimum 100 years.

Following thorough investigations and calculations of life cycle cost, it was evident that the only feasible

solution was stainless steel reinforcement, used intelligently in the areas with a high risk of corrosion.

Arminox Middle East FZC has supplied 900 tonnes of ARMINOX® stainless reinforcing steel to the project in Abu Dhabi through the contractor Achirodon.

For the final design a requirement of 41,000 tonnes of traditional black reinforcement and 900 tonnes of ARMINOX® stainless reinforcing steel has been projected.

Arminox Middle East FZC successfully finished the agreed delivery in December 2006.





# The Intelligent Choice

ARMINOX® stainless steel reinforcement - the best maintenance free and most economic solution to concrete structures worldwide!



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