

XERVON®

WORKING FOR THE FUTURE

Your experts for specialty surface coatings

plastocor®

Plastocor® gives the
best possible protection
against corrosion

> XERVON Plastocor GmbH

Plastocor® specialty coatings stand out thanks to their durability. They are particularly suitable for protecting condensers and heat exchangers against corrosion

xervon-plastocor.de

Working for you in a wide variety of sectors!

United by Buchen IndustrieService, the XERVON Group and the companies operated by the Buchen Group make up the industrial services division owned by REMONDIS, a leading international water and environmental service company.

If necessary, XERVON Plastocor can access the network of facilities and services provided by REMONDIS, a leading international water and environmental service company

The XERVON Group – services for the process industry

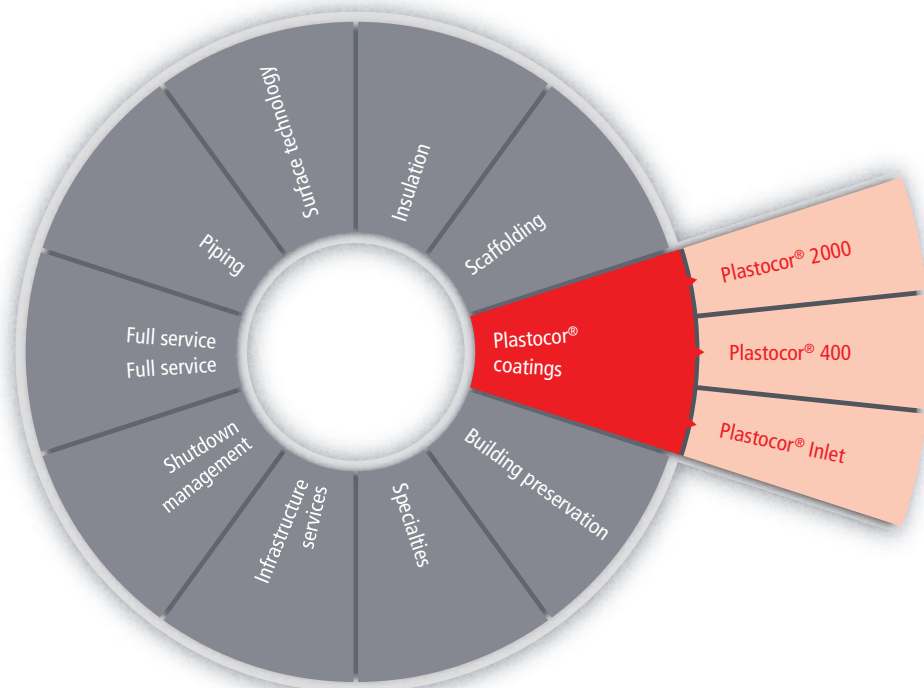
XERVON is an expert for services involving the construction and maintenance of technical plants as well as for achieving optimised processes and greater efficiency. All of the group's business areas complement each other perfectly so that our customers benefit from a wide range of services covering all aspects of their core business. We offer individual solutions with minimised interfaces as well as greater efficiency and cost effectiveness – and guarantee flexibility thanks to our expertise and strong resources. One of the main hallmarks of our company is the manner in which we continuously develop our network and areas of

expertise. With around 8,000 employees working on three continents, XERVON has the best possible set-up to meet the challenges of a great variety of sectors.

XERVON Plastocor – specialists for coatings for cooling water systems

The XERVON Group's wide range of services also include specialty coatings that are particularly suitable for protecting condensers and heat exchangers against corrosion. XERVON Plastocor GmbH is responsible for this field performing numerous tasks including drawing up customer-specific solutions and renovating process vessels.

The XERVON Group's fields of business and XERVON Plastocor's areas of expertise



Three high quality products suitable for every field of application:

- Plastocor® 2000 for tube sheets
- Plastocor® 400 for water boxes and vessels
- Plastocor® Inlet for tube inlets and outlets

For greater safety, efficiency and durability – Plastocor® will win you over!

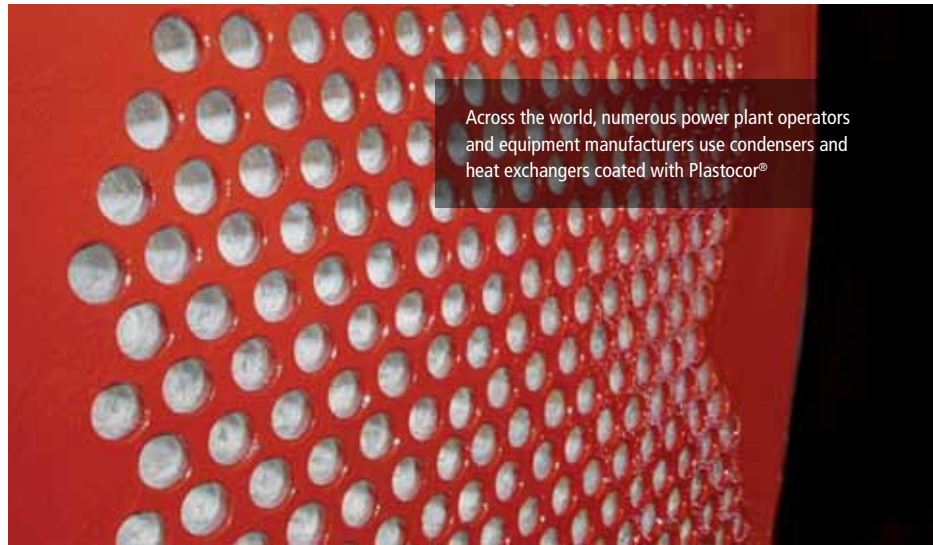
Surface technology has a long tradition at the XERVON Group which has been playing an instrumental role in developing and implementing technologies in this field. XERVON Plastocor's activities focus on providing unique specialty solutions to protect specific plant components against corrosion.

Long-lasting protection

One special feature of our portfolio is Plastocor®, a 2-component epoxy coating: it provides long-lasting protection against all types of damage caused by cooling water, process water, oil and compressed air. XERVON Plastocor is the only company in Germany to offer this high quality coating as well as all related services – including blasting and treatment work – and has a team of experts and specialist equipment that can be deployed all around the world. We always select the Plastocor® product that is most suited to the object that needs to be coated.

Efficient maintenance work

Pitting corrosion caused by galvanic cell formation is one of the most common reasons for damage to condenser tube sheets and other heat exchangers. This can lead to leakages and so to an interruption in operations. Plastocor® is a low-cost alternative to replacing tube



Across the world, numerous power plant operators and equipment manufacturers use condensers and heat exchangers coated with Plastocor®

sheets and having to pay for expensive re-tubing – especially for severely corroded tube sheets.

plastocor®

> Plastocor®: areas of use

- Condensers
- Oil and air coolers
- All types of heat exchanger
- Cooling water pipes
- Containers and tanks

Satisfied customers

Many customers – both at home and abroad – benefit from the advantages of Plastocor®. A large number of companies, in particular those working in the energy, chemicals and automobile industries as well as refineries, have been relying on the efficiency of this unique product for many years.

The advantages of Plastocor®

- Very little time is needed for cleaning thanks to the extremely smooth surface
- The conically shaped tube inlets and outlets provide easy access for projectile cleaning systems
- Optimum protection against corrosion and erosion – also in sea and brackish water – thanks to the duplex system of a carbon steel or Muntz metal tube sheet and thick-film coating
- Wear and tear on the tube inlets can clearly be seen by the colour of the individual layers of coating as they are worn away by erosion



Versatile. Flexible. Durable.

Corrosion protection for cooling water systems

Our 2-component epoxy coating Plastocor® is a system that is both versatile and flexible: Plastocor® 2000 thick-film coating is particularly suitable for protecting tube sheets against corrosion whilst Plastocor® 400 is primarily used in water boxes and for coating the inner walls of vessels. Plastocor® Inlet and Inlet ceramic are applied to tube inlets and outlets to protect them against wear and tear.

Hundreds of facilities have been using Plastocor® since 1958 where it has proven its worth many times over



Highly durable – even under extreme conditions such as in sea or brackish water

plastocor® 2000

Plastocor® 2000 for tube sheets

The Plastocor® 2000 thick-film coating system can be used to repair tube sheets that are already corroded or as a preventative measure to protect new tube sheets. Experience has shown that conventional systems that apply coats less than 1mm thick are unable to provide tube sheets with long-lasting protection. For this reason, Plastocor® 2000

coats are normally between 3mm and 5mm thick. At the heart of the process are the special plugs, which we developed ourselves and which make it possible to apply thick coats on the tube sheets thanks to the plugs' conical head that acts as a negative mould for the finished coating. The type of plug used depends on the size of the inner diameter of the tube.



An unprotected tube sheet exposed to galvanic corrosion



A tube sheet protected with Plastocor® 2000



Our employees are true specialists and are happy to discuss the different ways of using our coatings at your facilities

Plastacor® 400 for water boxes and vessels

As is the case with the Plastacor® 2000 thick-film system, our Plastacor® 400 coating is a solvent-free epoxy resin material. It was developed to protect water boxes

in condensers and other heat exchangers against corrosion and erosion. If necessary, we can, of course, draw up customised solutions to meet your special requirements!

plastacor®
400

plastocor® Inlet

Especially for tube inlets

Damage to tube inlets caused by erosion-corrosion shortens the service life of condenser tubes resulting in them having to be replaced more often. This in turn means higher costs and long periods of downtime. Such erosion-corrosion damage to tube inlets can be repaired on site with Plastocor® Inlet within just a few days if the damage is between 120mm and 400mm deep. The expense and time needed to coat a tube inlet is a fraction of the cost of replacing the

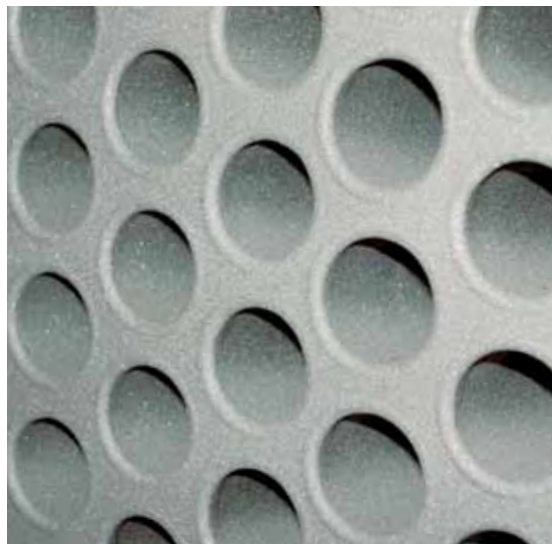
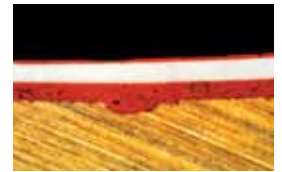
whole tube. An example: around 20 working days are needed to coat approx. 45,600 tube inlets at a power station.

Since 1978, new structures have been equipped with protruding tubes with flared ends to ensure the ends of the tubes can be fully embedded in the coating. When new tubes are being installed – for example titanium tubes in Muntz metal tube sheets – it is possible to increase protection against leaks by completely embedding the end of the tube in the coating.

! Plastocor® Inlet – a practical example

The illustration shows the cross section (magnified 50 times) of a tube of a steam turbine condenser coated with Plastocor® Inlet. After only 40,000 operating hours, it can clearly be seen that:

- the first layer of Plastocor® has filled the erosion pit
- the second coating has created an even, impermeable layer
- the surface layer, originally applied with a thickness of 40µm, measures about 20µm due to progressive erosion and the cooling water which also contains sand



A blasted tube sheet with tube inlets prepared for coating



Tube inlets coated with Plastocor® Inlet

Safety is our hallmark

Work safety for employees, responsibility towards people and the environment: more and more attention is being paid to risk management in industrial businesses. In order to be able to meet these growing demands, XERVON Plastocor has set itself high quality standards that are continuously being assessed and improved.



Rapid availability of staff and materials, bespoke solutions and, last but not least, completely fulfilling all work safety requirements – this is what XERVON Plastocor stands for

Identifying hazards, preventing accidents

A good safety record is always a sign of high quality standards and high job efficiency. In order to be able to continuously optimise our above-average standards, we have developed a special instruction programme for our employees. This also applies in particular to our managers who are taught, among other things, how to avoid accidents caused by human behaviour. Our aim is to permanently sensitise all our employees and establish an optimal safety culture for the benefit of all those involved.

Controlled management of subcontractors

The high safety standards, which apply to our staff, are, of course, also valid for the area of subcontractor management. We work exclusively with reliable, accredited and in-house approved partner firms who we are sure can fulfil our quality standards. Moreover, we use an SAP-based system that continuously monitors all parameters required for the accreditation and informs us of any deviations.

The high levels of satisfaction among our customers prove we are right: we have developed long-term partnerships with many of our clients – also and especially when complex tasks need to be carried out

Be on the safe side with XERVON Plastocor

Our high standards are documented by numerous accreditations and certificates. These include among others:

- DIN EN ISO 9001 (quality management)
- DIN EN ISO 14001 (environmental protection)
- KTA 1401 (quality management for nuclear plants)
- OHSAS 18001 (work safety)
- SCC[®] (unrestricted certification inc. petrochemical industry)



XERVON®

WORKING FOR THE FUTURE

As part of REMONDIS Maintenance & Services, XERVON Plastocor belongs to the REMONDIS group. REMONDIS is one of the world's largest recycling, service and water companies. The company group has more than 500 branches and associated businesses in 34 countries across Europe, Africa, Asia and Australia. With over 30,000 employees, the group serves around 30 million people as well as many thousands of companies. The highest levels of quality. Working for the future.

XERVON Plastocor GmbH
An der Landwehr 2 // 45883 Gelsenkirchen
Germany
T +49 209 9454-100 // F +49 209 9454-180
plastocor@xervon.com // xervon-plastocor.de
A company of the REMONDIS-Group