



CORROSION AND COATING SERVICES

Minimizing the cost of corrosion

- > Corrosion assessment
- > Protective coating advice
- > Root cause analyses
- > Coating inspections
- > Quality control

CORROSION LEADS TO SIGNIFICANT COSTS

Preventive actions are a cost-saver

Corrosion can have serious financial consequences. Depending upon the degree of corrosion, the equipment needs to be shut down and often even replaced. However, it is perfectly possible to avoid such costly interventions. Laborelec has the expertise, the experience, and the equipment necessary to prevent and fight corrosion.

THE ECONOMIC SIGNIFICANCE OF CORROSION

Corrosion is the disintegration of a material due to chemical reactions with its surroundings. It is a natural process that affects nearly every type of material: concrete, carbon steel, stainless steel alloys, aluminium, and even plastics. Corrosion poses a serious problem. It not only affects the appearance of a structure, it also impacts its safety and lifetime. Corrosion often determines the difference between trouble-free operation and costly downtime.

PROTECTIVE COATINGS LIMIT COSTS

Coatings help prevent and mitigate the detrimental effect of corrosion. The Laborelec experts assist in:

- > Selecting and applying the proper coating system to decrease the rate of corrosion and reduce maintenance
- > Monitoring the condition of the coating system to detect problems in a timely fashion and advise on the appropriate preventive measures



TECHNICAL COATING ADVICE

Tailor-made solutions for every situation

Using the right materials and processes can help fight corrosion problems. However, various criteria need to be taken into account. Laborelec offers a broad range of services to advise on the most appropriate protective coating system for each specific situation.

PRELIMINARY STUDIES

Selecting the appropriate coating system depends on a variety of factors. The cost of the coating system, the remaining lifetime of the equipment, the maintenance strategy, the properties of the substrate, and the specific environment are only a few examples. The Laborelec coating and corrosion experts consider all factors during their preliminary study of a new-build or maintenance project. Based on their findings, they define the technical specifications for the coating. They also evaluate offers from suppliers to make sure they meet the technical specifications.

ROOT CAUSE ANALYSES

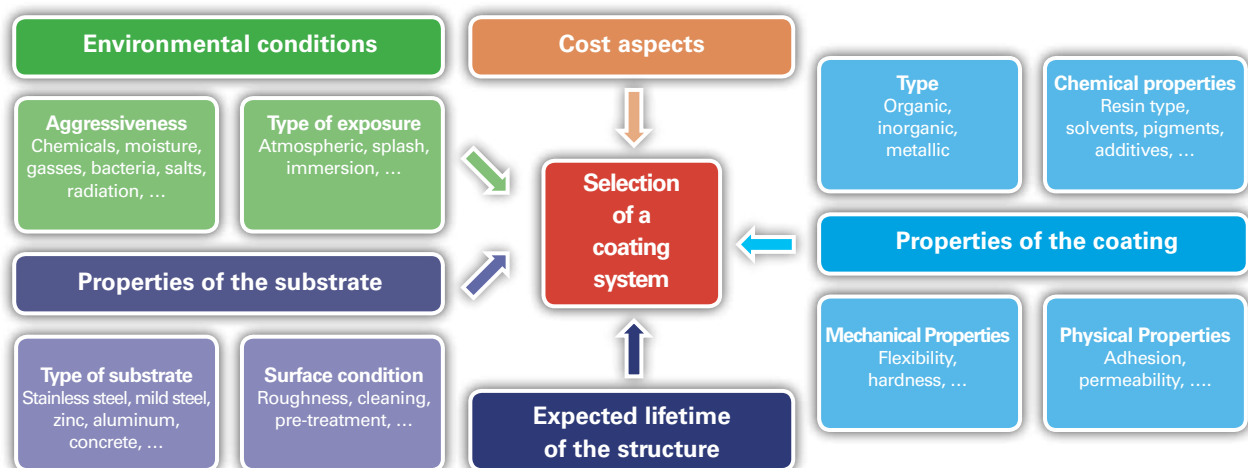
Coatings may lose their properties faster than expected. This can cause corrosion to affect entire structures or components, leading to serious damage. In the event of a failure, our experts carry out a neutral and objective assessment. They identify the true root cause(s) of the damage, determine who is responsible, and propose the most appropriate repairs.

CORROSION ASSESSMENT

Has the structure or component already started corroding? It is not too late. The proper coating can mitigate the harmful effects of corrosion and prevent further damage to the component and adjacent materials. Laborelec performs on-site inspections to investigate the extent and the nature of corrosion, as well as the condition of the coating present on the structure. Our specialized teams also perform on-site adhesion measurements and determine the wall thickness of various substrates.

A CORROSION SCAN QUICKLY IDENTIFIES THE CORRODED AREAS AT YOUR SITE

Do you want a quick overview of all the corroded areas at your site? Laborelec can provide such an overview, through a corrosion photo scan. Armed with a camera, our experts visit your site and take photographs of all visible corroded surfaces. Afterwards, you receive a report that includes all of the pictures, plus our advice on how to address this issue, so that you can efficiently prioritize and plan your corrosion control actions.



Laborelec takes into account a multitude of factors when selecting the appropriate coating system.

COATING INSPECTIONS

Evaluating quality before, during, and after paintwork

Major contributors to coating failure are the incorrect or careless application of paint. This is where the coating inspector comes in. His on-site presence and regular quality checks offer the best guarantee for reliable, long-term corrosion protection.

FOLLOW-UP OF SURFACE PREPARATION

Rust, salts, dust, and other contaminants must be removed carefully before a coating is applied. Moreover, an optimal surface roughness is necessary to guarantee proper adhesion of the coating film. Time and cost constraints sometimes lead to a lack of due care from the coating company.

Laborelec offers to inspect the coating supplier's surface preparation works. This ensures that the appropriate level of substrate cleanliness and surface roughness is achieved according to the technical specifications of the coating material.

QUALITY CONTROL DURING COATING WORK

Applying a coating system needs to be carried out meticulously. For instance, the various coating components need to be mixed in the right proportions and the ambient humidity must be controlled. Moreover, the coating thickness of each layer has to comply with the technical specifications.

Our experts have the knowledge and the experience to evaluate the work of the coating company. We check and measure all relevant parameters to ensure the best possible result.

POST-COATING CHECK

Freshly painted surfaces always look good. However, this does not mean that there are no problems underneath the surface waiting to emerge.

That is why we offer a complete quality check once the paintwork is completed. The thickness of the coating layer and the absence of bubbles are only two examples of the many issues our experts evaluate.



NACE-CERTIFIED INSPECTION

Carrying out coating inspections is much more than just walking around among the painters and checking the ambient temperature. It requires technical expertise in protective coatings and in-depth knowledge of surface preparation methods and coating application techniques.

Laborelec coating inspectors have proven skills in each of these domains. They are each certified by the National Association of Corrosion Engineers (NACE) to perform coating inspections.



CORROSION COMPETENCE CENTRE

Multidisciplinary skills ensure effective intervention

Although corrosion often only affects specific parts of the equipment, it influences the overall integrity of structures, machines, and circuits. The selection of appropriate solutions requires knowledge of the entire structure or component. Laborelec has the multidisciplinary competences to guarantee just that.

MORE THAN COATING ADVICE

In 90% of the cases, coating is the best way to avoid corrosion or mitigate its effects. In the other 10%, Laborelec is still able to offer you the best advice.

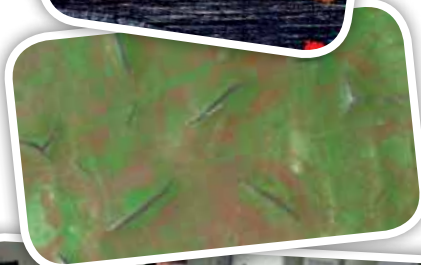
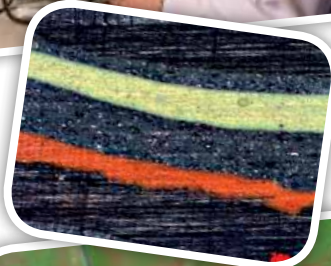
Our Corrosion Competence Centre is not limited to coating specialists. We have a multidisciplinary team of experts in mechanical engineering, metallurgy, electro-chemistry, polymer science, and many more specialties. This enables us to offer you professional advice, from water treatment and material selection to cathodic protection and more.

LABORATORY ANALYSES SUPPORT ADVICE

Our state-of-the-art laboratory provides excellent support for our on-site activities. It enables us to validate or rule out certain root causes or remedial measures based on, for instance, a microscopic observation of cracks or a precise identification of corrosion products. In addition, our in-house centre of expertise for non-destructive testing enables us to use the most cost-effective condition assessment techniques.

MAINTENANCE WORK REQUIRES SPECIAL ATTENTION

Corrosion protection requires well thought-out maintenance. A plant cannot simply be shut down for weeks and components disassembled or destroyed with tests. The Laborelec experts have years of experience in the field. They know the industrial practices and constraints, enabling them to find the optimal way to organize maintenance.





Five reasons for you to choose Laborelec

- > One-stop centre for all of your energy-related needs
- > 50 years of experience
- > Increased profitability of your installations
- > Independent and confidential advice
- > Internationally recognized and certified laboratory

The Technical Competence Centre
In energy processes and energy use
From innovation to operational assistance

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