

Alstom Power

# Recommendations for painting cabinets

Was the corrosion affecting Alstom Power's cabinets caused by a paint problem or an exogenous reason? The industrial company found the answer, strengthened its investigative powers and provided recommendations.

the ambient air generated by the industrial site itself.

## Repair procedure

Cetim ultimately advocated a repair procedure, which Alstom Power imposed on its sub-contractor in charge of painting the cabinet sheets: careful sanding (the new requirements are based on standard references), a layer of epoxy primer and a layer of intermediate epoxy followed by a polyurethane layer with comprehensive controlled curing (passing through an oven).

This solution has subsequently shown its effectiveness.



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## OUR CLIENT

### Corporate name

Alstom, Thermal Power sector

### Activity

Designs, manufactures, commissions and maintains thermal power plants, combined cycle power plants, machine rooms for thermal power plants and conventional islands for nuclear power plants

### Workforce

38.000

The British energy producer, located a stone's throw from the North Sea, called its supplier, Alstom Power, regarding a problem of premature corrosion on a cabinet. "We were not able to identify any in-house expertise for analysing the phenomenon", explains Emeric Marcadé, Quality manager at Alstom Power, "and, as we were not able to find a permanent solution, we asked the question to Cetim".

## Battery of tests

On site, the team from Cetim tested the adhesion of the paint to the metal sheet, measured the thickness of

the layers and inspected the surfaces to try and detect the preparations. In the laboratory, infrared examination using the samples taken on site helped to determine the chemical nature of the paints. Next, differential scanning calorimetry revealed a two-fold cause for the failure under investigation: incomplete curing and paint that was inadequate for the environment in question.

The contextual study was based on standard ISO 12944, which applies to the match between a paint system and an environment. The result was that the cabinet was not only subjected to salt air but also to the aggressive nature of

## Cetim's asset

Pre-diagnosis, field visits, samples,



laboratory tests, contextual studies, etc. Cetim offers its customers

a comprehensive range of physico-chemical analyses carried out by experts certified by Acqpa / Frosio.