



Application trial in a fractionation plant

Case Study



## Coating of a flange to demonstrate the effectiveness of Oxifree TM198

Location	CPQ Cangrejera, Coatzacoalcos
Local Environment	Onshore
Date	June 2014
Condition	Dry, Windy
Total Coatings	1
Substrate Type	Flange
Duration	1 day

### Summary

Shemensal conducted a trial at the Coatzacoalcos Area Gas Processing Complex on a flange which had become heavily corroded. The application was made and the work was to be reviewed after one year to assess the effectiveness of Oxifree TM198. The material was removed without causing damage to the substrate.

### Introduction

The Coatzacoalcos Area Gas Processing Complex is located at the southeast zone of the country, in the Pajaritos industrial zone, Coatzacoalcos municipality, Veracruz. The complex is an important part of Pemex business because it is the link between production and commercialization. Cangrejera is one of 2 fractionation plants which commenced operation in 1983.

### Objective

Flange 8 "600 # in the Cangrejera Pipeline Sector was found to be heavily corroded with rust and paint cracking. It was decided that the areas should be cleaned of all contaminants including grease, and prepared for the application of Oxifree TM198.

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METAL PROTECTION

*The corroded condition of the flange can be seen below prior to cleaning and application.*



After



Before



After



# Case Study

## Process

A team consisting of a supervisor and an application technician completed the project (trained by Oxifree Global).

The area was cleared of contaminants and degreased using an eco friendly degreaser solution along with wire brush, spatula and sanding to speed up the process.

Oxifree TM198 was applied to the recommended thickness of 4mm which has a dielectric coating and protection of 60 KV. This dielectric protection is an additional advantage for Site Safety.

A Polymelt 50 AI machine was used for the application. The process took a total of 100 minutes to complete from cleaning through to end of application. Despite the windy conditions the application was a success.

## Solution

Since this was a trial, only the top flange was protected by Oxifree TM198, the bottom flange was left exposed to assess the level of corrosion that may occur and prove the effectiveness of Oxifree TM198.

The Oxifree TM198 coating was applied to protect the flange from further corrosion and contaminants. The coating may be removed for inspection at any time.

The site was to be inspected a year later to review the effectiveness of the application.

## Conclusion

In May 2015, a year after application, the site was revisited and the coating removed (without damaging the substrate). The protected flange and bolts were in the same condition they were before coating. The inhibitor oil is clearly evident and the whole site free of advancing corrosion.

**OXIFREE**<sup>®</sup>  
METAL PROTECTION

*The application would be revisited after a year.*



## Conclusion continued

The project was deemed a success with very positive feedback from the client, and the protection using Oxifree TM198 allows the flange and valves to remain operational and protected from corrosion and contaminants. This extends the life of the equipment without the need to replace at a substantial cost.

Oxifree TM198 is recommended for all types of metal structures including those with complex assemblies where other traditional coating types would be impossible to apply. It is recommended for metal structures under extreme conditions of high corrosion rates such as rain, salt spray and chemical splash, UV rays and harsh climate conditions.

The protection provided by the coating will extend the life of the metal assets it protects savings costs to both CapEx and OpEx.

Pemex Petroquimica Y Gas have approved and continue to utilise Oxifree TM198 for the purpose of valve and flange protection in both ambient and cryogenic service conditions.

