

Conducting a flange trial for Lukoil

Case Study



Conducting a flange protection trial using TM198 in the Caspian Sea

Location	The Caspian sea
Local Environment	OIRFP them. Y. Korchagin
Date	October 25 2017-April 16 2018
Condition	Harsh
Total Coatings	1
Substrate Type	Flange
Duration	6 months

Summary

In 2017, Corsol, LLC company was invited to demonstrate the anti- corrosion properties of OXIFREE TM198 coating with the potential to become an approved supplier for LUKOIL-Nizhnevolzhskneft, LLC.

The trial started at the offshore ice-resistant fixed platform Y. Korchagin in October 2017 for the purpose of testing the protective coating. The flange joint treated with OXIFREE TM198 was installed in the open area of the E-2102 A / B heaters, level 3800.

On April 16, 2018 the material was removed to study the results of the six month trial.

Introduction

Lukoil Oil Company is a Russian multinational energy corporation headquartered in Moscow, specializing in the business of extraction, production, transport, and sale of petroleum, natural gas, and petroleum products.

Y.Korchagin is an offshore ice resistant fixed platform located in the Caspian Sea. The platform is subjected to a wider variety of environmental conditions due to the offshore location.

Objective

The main objective of the TM198 trial was to study its properties in the field conditions and report on the outcomes. During trials the flange was located in the open area of the E-2102 A/ B heaters, level 3800.

On February 28, 2018, it was decided to place the flange in an open container of salt water, where it remained until April 1, 2018 (see page 4).

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Flange photos after sandblasting and TM198 application



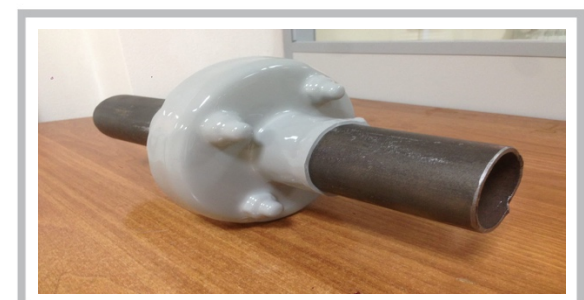
After



Before



After



Case Study



Process

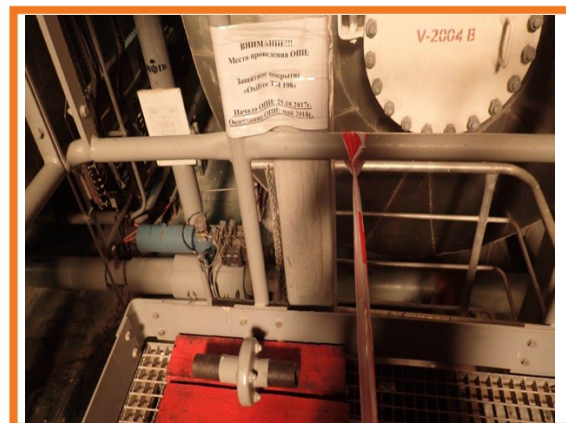
A test sample (flange) was received on September 13, 2017. The flange was in good condition without significant corrosion. It had a yellow paint coating on the external surfaces.

The flange connection was processed by sandblasting at the request of the customer to remove paintwork and identify any problem areas.

Following preparation TM198 was sprayed into the flange gap to protect unblasted sections in the joint. After processing, the filled gap was additionally covered by aluminum tape. This allows for the outer encapsulation to be removed easily, for inspection after trial.

An overall layer of 4mm of TM198 was applied.

Flange photos during trial and before/after TM198 removal



Solution

Six months later, on April 16, 2018, the coating was removed. The flange was opened by a Corsol engineer at the office of LUKOIL-Nizhnevolskneft in the presence of representatives of both companies.

The results of the study showed the expediency of using OXIFREE technology for anti-corrosive solutions in the harsh shelf environment.



Conclusion

There are the following conclusions made from the trial:

- The flange connection remained in perfect condition, showing no signs of degradation;
- Preservation of the integrity of the corrosion-resistant coating TM198 under the harsh conditions of the six month test;
- Absence of visible corrosion elements on both bolts and flanges after material removal;

The attested high protection level of the OXIFREE TM198 coating ensures not only structural integrity of the connection, but also many years of trouble-free operation under the influence of harmful environmental factors.



Additional photos of trial results

*References are available upon request

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