



11/16/2020

### Examination: Results and first stage of testing Rust Free

#### 1. General:

- 1.1. The Rust Free product advantages: easy application, environmentally safe, corrosion resistant and cost effective price.
- 1.2. In order to test both effectiveness and the application procedure, an experiment was scheduled with the Corrosion Cure company.
- 1.3. First test results in the field and after full dryness are documented in this report.

#### 2. Test results in the field:

- 2.1. The product was applied at the warehouse (Facility 136) - simultaneously on container F-405, tower E-631 and chimney.
- 2.2. In addition, the product was applied also on a dome- 305-c-125.
- 2.3. At the warehouse – the product was easy to work with and produced a solid thin layer on objects including pipes, plates and arches.
- 2.4. All the objects had rust in depth of 0.05-0.1 millimeters – Objects were power washed before the application procedure.
- 2.5. The experiment is documented in pictures 1,2,3,4 on date 10/21/2020.
- 2.6. Good results on facility 136, except a single pipe on tower E-631 – the depth of the rust prevented a proper application.

#### 3. Test results after full dryness – according to ASTM standard to DRY FILM:

- 3.1. Standard checks of depth and adhesion\*\* were done after full dryness on date – 11/3/2020.
- 3.2. Depth and adhesion\*\* tests meet the requirements of manufacturer specifications – 70-100  $\mu$  .
- 3.3. Pipe on tower E-631 with deep rust (approximately 1 millimeter) – did not pass.
- 3.4. Test results are documented on pictures 5,6,7
- 3.5. Good results on dome 305-c-125

\*\* Adhesion testing is not relevant for Rust Free especially when it is applied on heavily rusted objects as it is not a paint. This was explained before tests started. The refinery has decided to run the adhesion tests anyway and the results are therefore as expected.

#### 4. First stage experiment conclusion and outlook for future trials with Rust Free:

- 5.1. Experiment stage – first tests and application passed successfully.
- 5.2. It is important to note that the product was safe and easy to use
- 5.3. Final test results will be available in January 2021 – 3 months after the experiment.
- 5.4. Test results will be confirmed on the two major relevant coating checks – metallurgy and visual.
- 5.5. There will be extensive applications for this product.
- 5.6. Detailed plans for future programs and expanded experiments with Rust Free will be discussed after results are evaluated in January 2021

Best regards,  
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**Pictures from different stages of the experiment:**

1. Rust Free paint on plate



2. Rust Free paint on pipe



3. Different objects



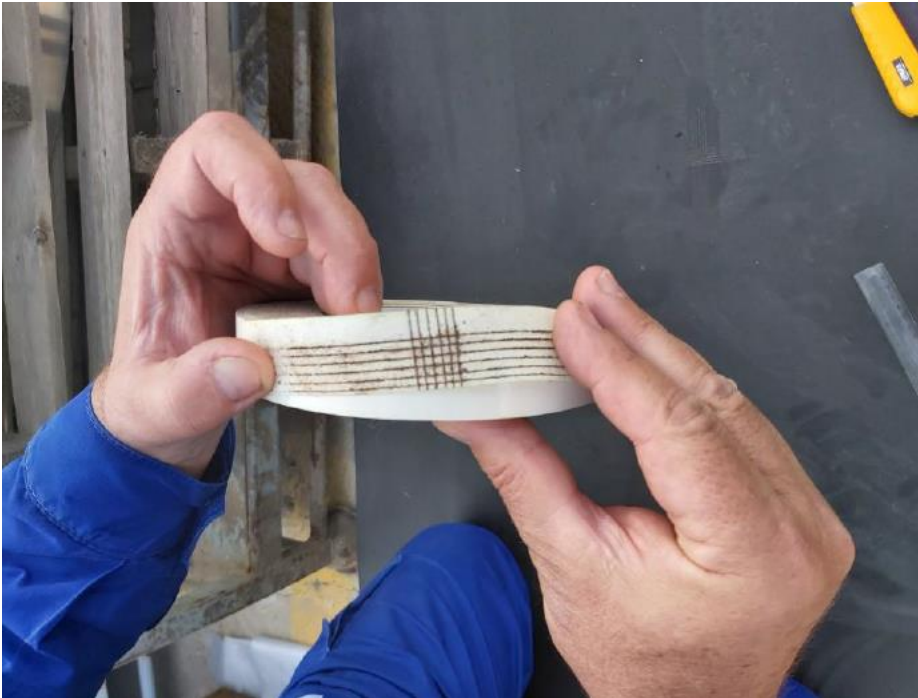


4. Faucet on facility 136



**Pictures from test results:**

5. Adhesion test



6. panel depth paint test



7. Inappropriate coating of adhesion test

