

**7/31/2013**

**CASE # 13.07.31-A**

Life Guard Active Rust Primer -Mascoat Industrial DTI Compatibility Test

**START REPORT**

**PURPOSE**

Samples of Life Guard Active Rust Primer were provided to Mascoat for review of performance. The performance study was to ascertain product compatibility performance with Mascoat Industrial DTI. Standard testing on this coating included:

- Film spray to Rusty 6" x 6" Steel panel (not cleaned) at 3 mils (0.075 mm).
- Mascoat Industrial DTI applied to 30 mils (0.75 mm) on top of Life Guard Active Rust Primer.
- Adhesion pull testing as per ASTM 4541.
- Heat cycle tests to determine advanced aging.
- OTHER TESTS CONSIDERED.

**BACKGROUND**

Rusty 6" x 6" Steel panel (not cleaned) were coated with Life Guard Active Rust Primer and allowed to cure according to label and technical data sheet directions. A topcoat of Mascoat Industrial DTI was applied and allowed to cure.

The panels were analyzed using standard Mascoat testing procedures.

**EXPERIMENTAL PROCEDURE and RESULTS**

**Visual Inspection** - Coating appearance was fairly hard and smooth. Each panel was tested with a Quanix Electronic Film Thickness tester at each step of the application process to determine coating thickness. Life Guard Active Rust Primer had a dry film thickness of 3 mils (0.075 mm) dry film thickness (dft) Mascoat Industrial DTI had a dry film thickness of 30 mils (0.75 mm) dry film thickness (dft).

**Adhesion Tests** - The coated panels were subjected to pull-off adhesion tests using a Defelsko Positest AT adhesion tester performed in accordance with ASTM D-4541 Standard Test Method for Pull-Off Strength of Coatings. 50 mm dollies were glued to the coating with epoxy glue and allowed to cure overnight. Figure 1 below shows the results of the testing.

---

The coating showed a cohesive failure indicating that it stuck to the dolly and to the substrate. All panels performed similarly.

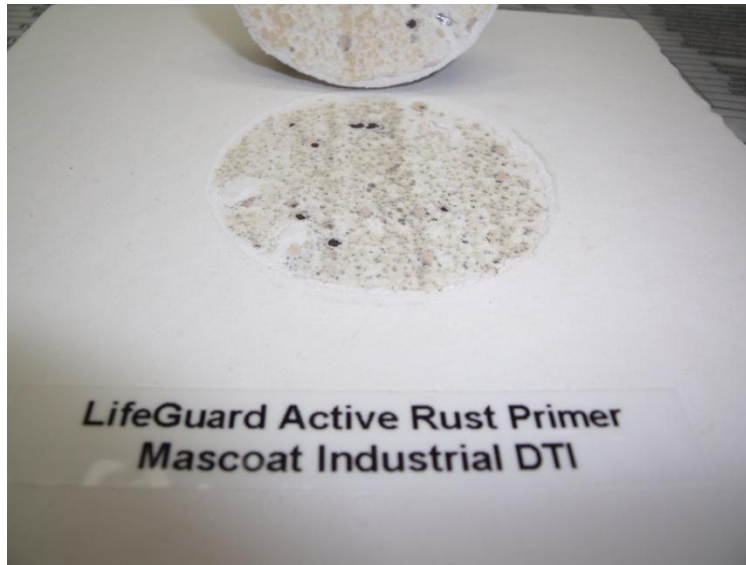


Figure 1 showing adhesion test results

**Heat Tests** – The Mascoat Cyclic Heat Test (HT-451) was performed on the panels. The test consists of heating a panel to 200 °F (~94 °C) for 1 hour followed by 1 hour at 40 °F (~5 °C). The panel is then subjected to 250 °F (121 °C) followed by another hour at 40 °F (~5 °C). The panel is then placed at 300 °F (149 °C) for an hour before subjecting it to the final hour at 40 °F (~5 °C).

The results of the heat test showed no blistering, bubbling, discoloration or loss of adhesion. This can be seen in Figure 2 below.

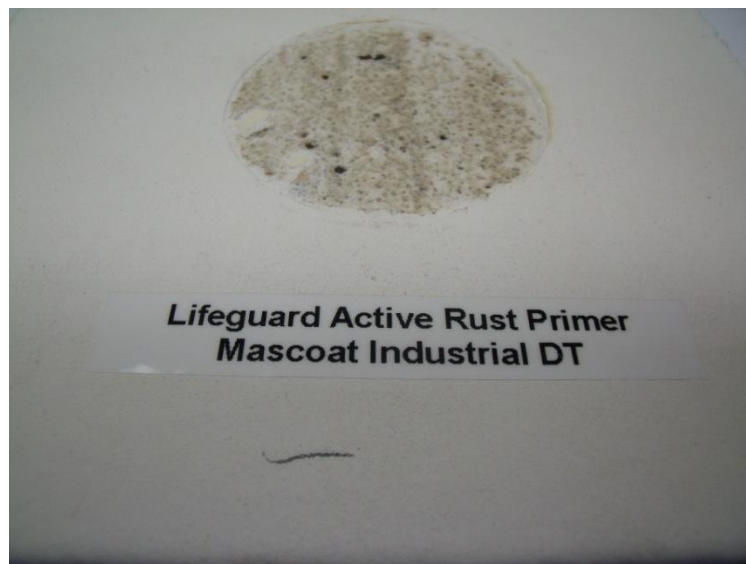


Figure 2 Heat tested panel

## **FULL CONCLUSIONS**

Mascoat Industrial DTI demonstrated excellent adhesion to Life Guard Active Rust Primer as was evidenced by the cohesive failure during the pull-off adhesion test.

The two products performed very well during the cyclic heat tests.

The final conclusion is that Life Guard Active Rust Primer is compatible with Mascoat Industrial DTI.

## **END REPORT**

---