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Comparing Cortec Products to Similar Products Made by Rust-Oleum

Background: Rust-Oleum is a large competitor to Cortec in the coatings and metal workings field. It would be beneficial to know how their product line compares to Cortec's. Two Rust-Oleum products will be tested and compared against a variety of Cortec products.

Purpose: To evaluate Rust-Oleum Rust Reformer and Rust Inhibitor, and compare their performances to that of similar Cortec products.

Method: ASTM D 1748 Humidity Cabinet

Materials:
Rust-Oleum Rust Reformer Liquid, 1 gallon
Rust-Oleum Rust Reformer Aerosol Spray, 10.25 fl oz
Rust-Oleum Rust Inhibitor Aerosol Spray, 10.25 fl oz
Cortec VpCI CorrVerter
Cortec VpCI-377 (Eco Air Spray)
Cortec VpCI-325 (aerosol)
Cortec VpCI-238 (aerosol)
Cortec VpCI Super Penetrant (aerosol)
1010 Carbon Steel Panels

Procedure: The following procedure was used:

1) Three carbon steel panels were corroded in ASTM B 117 salt spray chamber.
    a. Panels were then removed, rinsed with water, and allowed to dry.
2) After drying, panels were treated with the following products.
    a. A11: Rust-Oleum Rust Reformer (bulk liquid, brushed)
    b. B11: Rust-Oleum Rust Reformer (aerosol spray)
    c. C11: Cortec CorrVerter VpCI (brushed)
3) These products were allowed to convert according to the directions on their containers.
    a. After prescribed converting time, converted layer was removed and inspected.
        i. All panels were then photographed.
4) Clean carbon steel panels were then treated with the following products:
    a. G12: VpCI-325
    b. H12: Rust-Oleum Rust Inhibitor
    c. I12: VpCI Super Penetrant
    d. J12: VpCI-238
    e. K12: VpCI-377
5) After treatment, panels were allowed to drip dry overnight.
6) Panels G12-K12 were then placed in ASTM D 1748 humidity cabinet.
    a. Panels were visually inspected periodically.
7) After 770 hours, all panels were removed from ASTM D 1748 humidity cabinet.
8) Panels were visually inspected and photographed.

Results: The following results were found:

Rust Converters.

1) All products worked similarly well in converting corroded panels. No further testing was performed on the converted panels.

ASTM D 1748 Humidity Cabinet, 770 hours.

1) Panel G12 had one streak of corrosion, approximately ¼"wide and 4" long. Two other small spots of corrosion were visible.
2) Panel H12 had nine different spots of rust throughout the top half of the panel.
3) Panel I12 had some slight discolorations, but no corrosion was visible.
4) Panel J12 had some slight discolorations, but no corrosion was visible.
5) Panel K12 had some slight discolorations, but no corrosion was visible.

Conclusion: The conversion part of the testing showed little differentiation between the products. The Rust-Oleum products appeared to convert the same amount as VpCI CorrVerter. The corroded panels used for this testing were not wire brushed or otherwise surface prepped prior to converting, and this lead to a very bumpy primer layer.

In humidity testing, the Cortec product most similar to Rust-Oleum's Rust Inhibitor was VpCI-325. Both panels showed small to moderate amounts of corrosion at the end of testing. All other Cortec products provided outstanding results. No corrosion was visible on the panels coated with VpCI-238, VpCI-377 or VpCI Super Penetrant. All of three of these products provided superior protection when compared to the Rust-Oleum product.

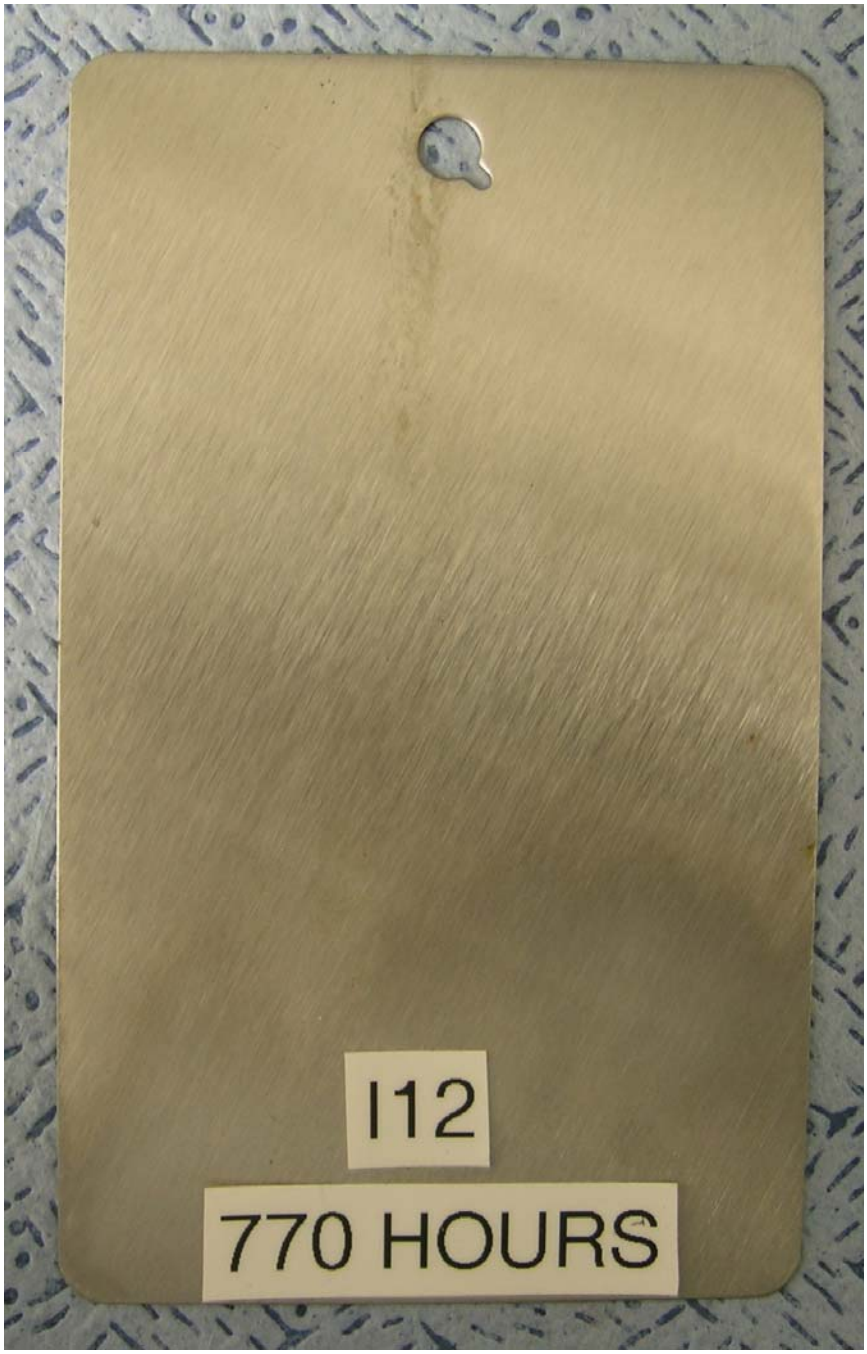
Corroded panel, after conversion with Rust-Oleum Rust Reformer (bulk version).

Corroded panel, after conversion with Rust-Oleum Rust Reformer Spray.

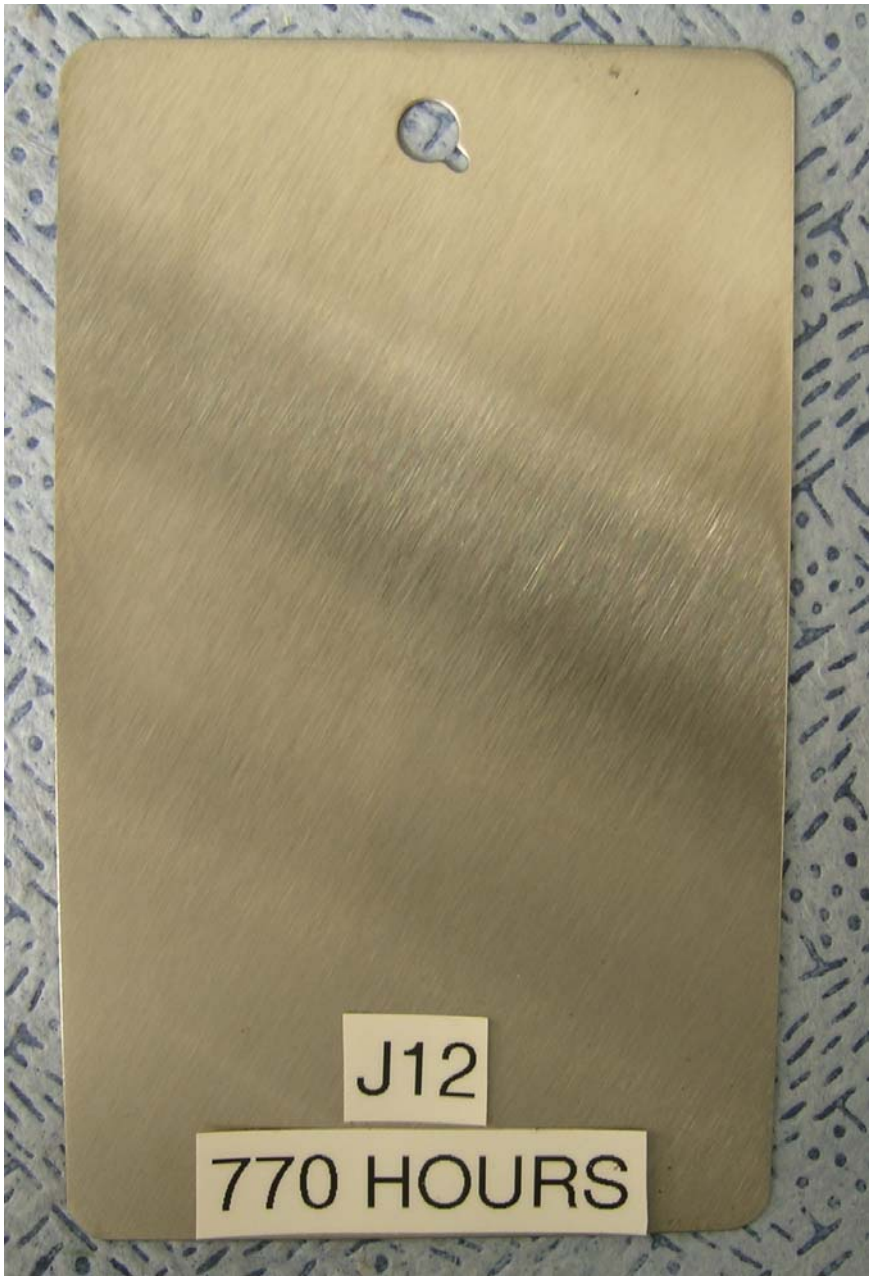
Corroded panel, after conversion with VpCI CorrVerter.

Panel G12, after 770 hours in ASTM D 1748 humidity cabinet.

Panel H12, after 770 hours in ASTM D 1748 humidity.



Panel I12, after 770 hours in ASTM D 1748 humdity.



Panel J12, after 770 hours in ASTM D 1748 humidity cabinet.

Panel K12, after 770 hours in ASTM D 1748 humidity cabinet.