

4119 White Bear Parkway, St. Paul, MN 55110 USA
 Phone (651) 429-1100, Fax (651) 429-1122
 Toll Free (800) 4-CORTEC, E-mail info@cortecvci.com
 Internet http://www.cortecvci.com

Evaluation of Plaspisa Film

Background: Quimilock/Jesus Orte Crespo requested that the anticorrosion properties of the submitted Plaspisa film be analyzed.

Purpose: Evaluate vapor phase and contact corrosion inhibiting properties of the submitted sample of Plaspisa film.

Materials:

1. Plaspisa film, submitted by Quimilock
3. Uncoated polyethylene film (control film), 4 mils
4. Carbon Steel Panels
5. Copper Panels
6. Methanol-lab grade
7. 0.005% NaCl solution
8. DI water
9. Razor Blade test kit
10. VIA test kit
11. FT-IR test kit
12. Perkin Elmer FT-IR 1000 Spectrometer
13. Nitrite test strips, EM Quant

Method:

1. Razor Blade test, CC-004
2. VIA test
3. FT-IR Test
4. Nitrite test

Procedure: The above tests were performed according to standard procedures for each.

Results:

Razor Blade Test Performed on Carbon Steel Panels

Film	Panel 1	Panel 2	Panel 3
Plaspisa	Pass	Pass	Fail
Control	Fail	-	-



Film	Panel 1	Panel 2	Panel 3
Plaspisa	Fail	Fail	Fail
Control	Fail	-	-

Razor Blade Test Performed on Copper Panels

VIA Test

Film	Plug #1	Plug #2	Plug #3
Plaspisa	2	1	1
Control	0	-	-

Note: VIA Grading system is attached below

FT-IR Test

FT-IR results are attached at the end of the report.

Nitrite Test

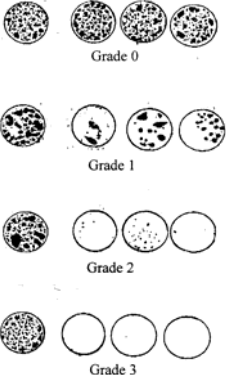
Film	Inside	Outside
Plaspisa	+	-
Control	-	-

Conclusion:

1. The test results determined that the submitted Plaspisa film inhibited corrosion on carbon steel in contact only, but failed to inhibit corrosion when tested on copper. The film failed the VIA test.
2. Nitrite was found on the inside of the film.
3. Based on FT-IR the chemical composition of this film consists of sodium benzoate and nitrite.

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VIA Test Grades (Grade 2 or 3 are passing)

<p>Grade 0: Blind test No corrosion inhibiting effect</p> <p>Grade 1: Blind test Minute corrosion inhibiting effect</p> <p>Grade 2: Blind test Medium corrosion inhibiting effect</p> <p>Grade 3: Blind test Good corrosion inhibiting effect</p>	 <p>The image shows four rows of circular test results, each labeled with a grade. Grade 0 shows four circles with heavy, dark, irregular corrosion patterns. Grade 1 shows four circles with moderate, dark, irregular corrosion patterns. Grade 2 shows four circles with light, sparse, and somewhat regular corrosion patterns. Grade 3 shows four circles that are almost entirely clear and smooth, with only a few very small, faint spots.</p>
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