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Evaluation of Daubert Films

From: Cortec Corporation Laboratories

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Background: Customer submitted two Daubert films and requested that the corrosion inhibiting properties of the films be evaluated.

Sample Received:

- 1. White Daubert film, unlabeled, received 11-01-11, good condition
- 2. Blue Daubert film (Premium Metal Guard), unlabeled, received 11-01-11, good condition

Method:

- 1) VIA Test CC-027
- 2) Razor Blade Test CC-004
- 3) FTIR Test CC-006
- 4) Nitrite Test

Materials:

- 1) Razor Blade test kit
- 2) VIA Test Kit
- 3) Perkin Elmer Paragon 1000 Spectrophotometer
- 4) Nitrite/Nitrate test strips

Procedure: The tests were conducted according to standard procedures for each test.

Results:

Razor Blade Test-Carbon Steel Panels

Sample	Panel 1	Panel 2	Panel 3
Blue Daubert Film	Pass	Fail	Fail
White Daubert Film	Pass	Fail	Fail
Control	Fail	-	1

Razor Blade Test -Copper Panels

Sample	Panel 1	Panel 2	Panel 3
Blue Daubert Film	Pass	Fail	Fail
White Daubert Film	Pass	Fail	Fail
Control	Fail	-	-

VIA Test Results

Sample	Plug #1	Plug #2	Plug #3
Blue Daubert Film	Grade 0	Grade 1	Grade 1
White Daubert Film	Grade 2	Grade 2	Grade 2
Control	Grade 0	-	-

Note: The VIA grading system is attached to the end of the report.

Nitrite Test

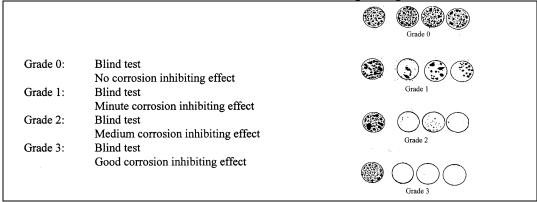
Sample	Result
Blue Daubert Film	Contains Nitrite, both sides

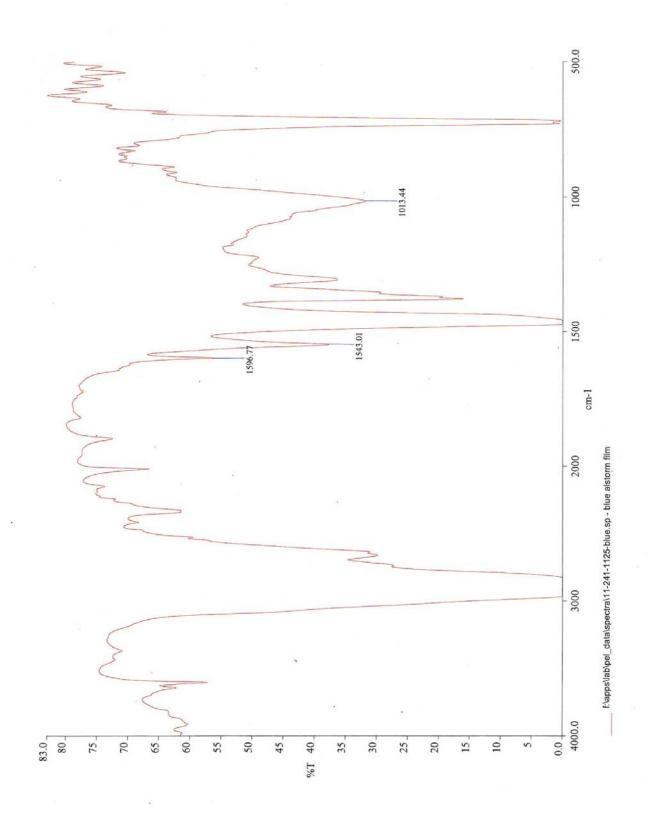
White Daubert Film	Contains Nitrite, both sides

Interpretations:

- 1. Based on the test results, the blue Daubert film did not provide contact or vaporphase corrosion protection.
- 2. The Razor Blade test results determined that the white Daubert film did not provide contact-phase corrosion protection for copper and carbon steel. The VIA test results determined that the white Daubert film provided moderate vapor-phase corrosion protection.
- 3. Based on FTIR both films have the same chemical composition (nitrite + salt of carboxylic acid, probably sodium benzoate). The differenced in VIA test are probably due to non-uniform dispersion of corrosion inhibitor in polyethylene.

VIA Test Grades (Grade 2 or 3 are passing)





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