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Preliminary Report: Comparing the Corrosion Inhibiting Properties of NTI Multi-Metal Film to VpCI-126 ES

From: Cortec Corporation Laboratories

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Project #: 12-033-1125(bis)

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Approved by:

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Date: March 1, 2012





Background: Mike Gabor requested that the corrosion inhibiting properties of the NTI multimetal film be evaluated and compared to VpCI-126 2.75 mil ES.

Sample Received: NTI Multi-metal film, green, unlabeled, received 02-20-12, good condition

Sample(s) labeled:

Method:

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

Materials:

- 1) VIA test kit
- 2) Razor Blade test kit
- 3) Perkin Elmer Paragon 1000 Spectrophotometer
- 4) Nitrite/Nitrate Test Strips
- 5) VpCI-126 ES Lot# 31776

Procedure: The tests were performed according to standard procedures.

Results:

Razor Blade Carbon Steel

Sample	Panel 1	Panel 2	Panel 3
NTI Multi-Metal Film	Pass	Pass	Fail
VpCI-126 ES	Pass	Pass	Pass
Control	Fail	-	-

Razor Blade Copper

Sample	Panel 1	Panel 2	Panel 3
NTI Multi-Metal Film	Fail	Fail	Fail
VpCI-126 ES	Pass	Pass	Pass
Control	Fail	-	-

VIA Test Results

Sample	Plug #1	Plug #2	Plug #3
NTI Multi-Metal Film	Grade 0	Grade 0	Grade 2
VpCI-126 ES	Grade 2	Grade 2	Grade 3
Control	Grade 0	-	-

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

^{*}Cortec Laboratory is not accredited for the test(s) marked

Interpretations:

- 1. Based on the razor blade test results, the submitted green NTI multi-metal film provided limited contact-phase protection for the carbon steel and it failed to protect copper (to provide multi-metal protection).
- 2. The VIA test results for the NTI multi-metal film determined that it does not provide vapor-phase corrosion inhibition.
- 3. Based on FTIR results, the NTI multi-metal film was found to be nitrite-based.
- 4. VpCI-126 ES provided vapor-phase and contact-phase corrosion inhibition.
- 5. The final version of this report will be published after we get the physical property test results from Cambridge.

VIA Test Grades (Grade 2 or 3 are passing)

Grade 0: Blind test

No corrosion inhibiting effect

Grade 1: Blind test

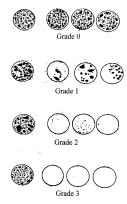
Minute corrosion inhibiting effect

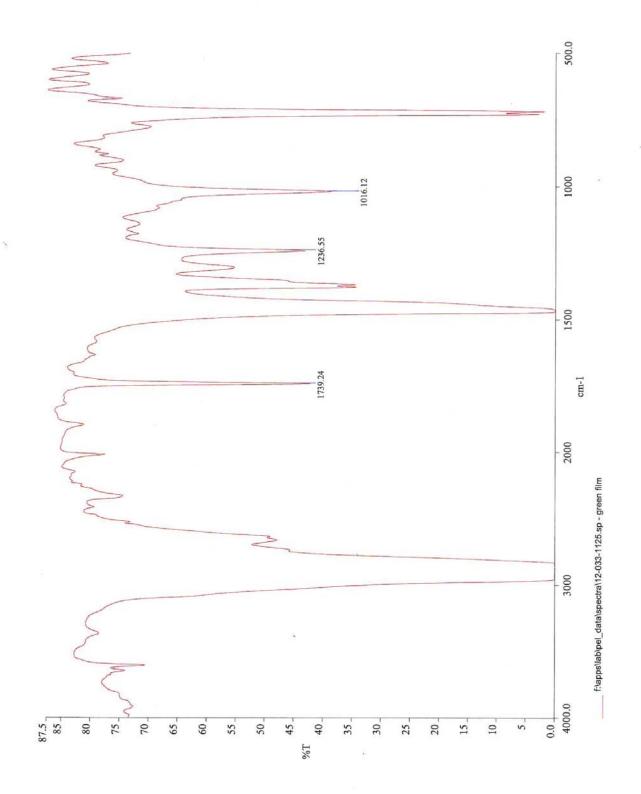
Grade 2: Blind test

Medium corrosion inhibiting effect

Grade 3: Blind test

Good corrosion inhibiting effect





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