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## *Evaluation of Polymer Packaging Film*

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**Project #:** 13-076-1125.bis.corrected

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**Purpose:** To test the submitted film made by Polymer Packaging, and compare the results to Cortec's VpCI-126 film.

**Sample Received:** 1) Blue Film, 1.75mils made by Polymer Packaging, in good condition, received on 4/12/13  
2) VpCI-126 film, 2mils, good condition

**Method:** 1) VIA Test CC-027  
2) Razor Blade Test CC-004\*  
3) Nitrite/Nitrate Test\*  
4) FTIR analysis  
\*Cortec Laboratory is not accredited for the test marked

**Materials:** 1) VIA test kit  
2) Razor blade test kit  
3) Nitrite/Nitrate Test Strips  
4) Mil thickness gauge  
5) Paragon 1000 FTIR

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

**Results:**

**Razor Blade Test- Copper Panels**

Sample	Panel #1	Panel #2	Panel #3	End Result
Polymer Packaging Film	Fail	Fail	Fail	Fail
VpCI-126 film	Pass	Pass	Pass	Pass
Control	Fail	-	-	-

**Razor Blade Test- Steel Panels**

Sample	Panel #1	Panel #2	Panel #3	End Result
Polymer Packaging Film	Fail	Fail	Fail	Fail
VpCI-126 film	Pass	Pass	Pass	Pass
Control	Fail	-	-	-

**VIA Test**

Sample	Plug #1	Plug #2	Plug #3	End Result
Polymer Packaging Film	Grade 1	Grade 1	Grade 0	Fail
VpCI-126 film	Grade 3	Grade 2	Grade 3	Pass
Control	Grade 0	-	-	-

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

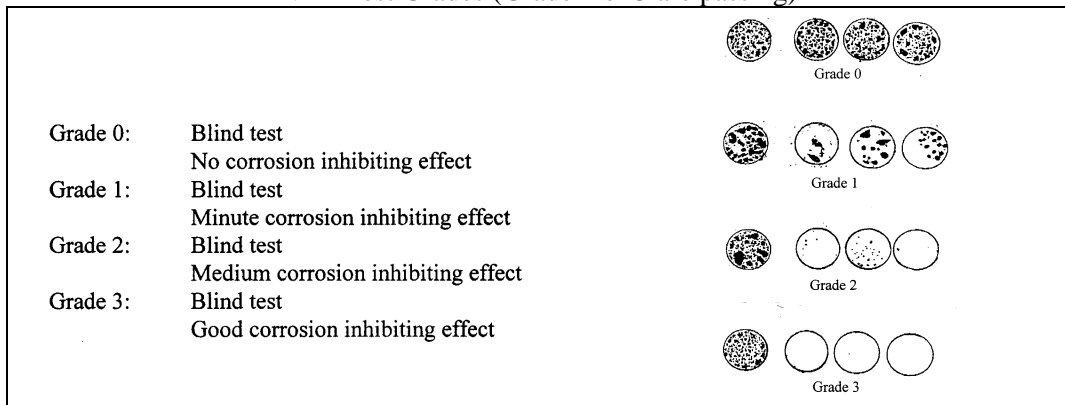
**Nitrite Test**

Sample	Results
Polymer Packaging Film	Nitrite was found on both sides of the film

**Interpretations:**

- 1) Based on the test results, the Polymer Packaging film does not provide sufficient contact phase corrosion protection for carbon steel and copper. The VIA test results also determined that this film does not provide sufficient vapor-phase corrosion inhibition. The FTIR analysis does not show any signs of vapor phase corrosion inhibitor. Based on analytical test results this film is nitrite-based..
- 2) The VpCI-126 provided excellent contact and vapor-phase corrosion inhibition, based on Razorblade and VIA test results.

VIA Test Grades (Grade 2 or 3 are passing)



# FTIR Analysis

Polymer Packaging Film Compared to clear non-VCI film

