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## *Evaluation of Blue Film*

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**cc:** Boris Miksic  
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**Project #:** 13-015-1125.bis

**Results reported by:**

Liz Austin

**Approved by:**

Margarita Kharshan  
Laboratory Director

**Date:** February 8, 2013



**Background:** Jess Carpenter submitted a blue film, manufactured by Armor, and requested that it be tested to determine if it provides corrosion protection.

**Sample Received:**

- 1) Blue Film, manufactured by Armor, good condition, received 01-29-13
- 2) VpCI-126, good condition, batch 31957, received 03-19-12

**Method:**

- 1) VIA Test (CC-027)
  - 2) Razor Blade Test (CC-004)\*
  - 3) Nitrite/Nitrate Test\*
  - 4) FTIR Test (CC-006)
- \*Cortec Laboratory is not accredited for the test marked

**Materials:**

1. VIA Test Kit
2. Laboratory Grade Methanol
3. Carbon Steel Panels
4. Control Film, Plain Polyethylene Film
5. Deionized Water
6. Paragon 1000 FTIR
7. Nitrate/Nitrite Test Strips, EM Quant

**Procedure:** The tests were performed according to their standard procedures.

**Results:**

**Razor Blade Test – Carbon Steel**

Sample	Panel 1	Panel 2	Panel 3
Blue Film	Fail	Fail	Fail
VpCI-126	Pass	Pass	Pass
Control	Fail	-	-

**Razor Blade Test – Copper**

Sample	Panel 1	Panel 2	Panel 3
Blue Film	Pass	Pass	Pass
VpCI-126	Pass	Pass	Pass
Control	Fail	-	-

### VIA Test

Sample	Plug # 1	Plug # 2	Plug # 3	Pass / Fail
Blue Film	Grade 0	Grade 0	Grade 1	Fail
VpCI-126	Grade 3	Grade 2	Grade 3	Pass
Control	Grade 0	N/A	N/A	Fail

Note: Grades 0 and 1 are considered failing. See below for grading scale example.

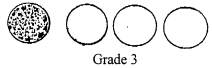
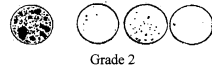
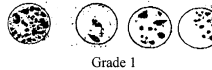
### Results relate only to the items tested

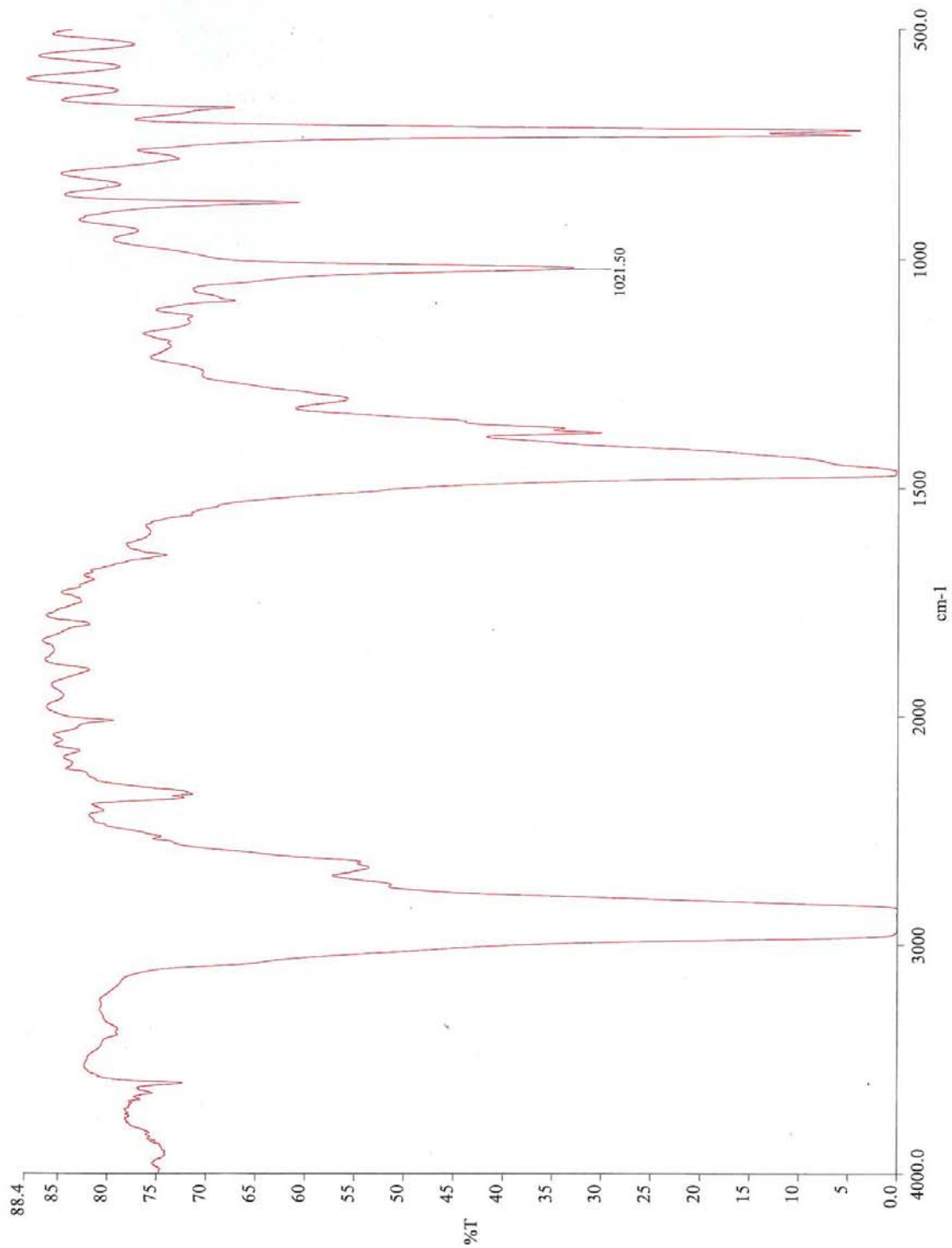
#### Interpretations:

- 1) Based on the Razor blade and VIA test results, the submitted blue film does not provide contact-phase or vapor-phase corrosion protection for carbon steel.
- 2) The blue film does not contain nitrite.
- 3) The results of the razor blade test determined that the blue film provides contact-phase corrosion protection for copper.
- 4) The test results determined that VpCI-126 provides good vapor and contact-phase corrosion inhibition.

#### 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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