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## Zerust Film Evaluation

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**Project #:** 13-120-1125.bis

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Vice President of R&D

**Date:** June 10, 2013



**Purpose:** To test the two submitted Zerust Valeno films for vapor phase and contact phase corrosion protection, and compare to VpCI-126 film.

**Sample Received:** 1) Yellow Zerust Valeno Film, 5/13 (2mils)  
2) Yellow Zerust Valeno Film, 50/12 (2mils)

**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
Yellow Zerust Valeno Film, 5/13	Pass	Pass	Fail	Fail
Yellow Zerust Valeno Film, 50/12	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
Yellow Zerust Valeno Film, 5/13	Pass	Pass	Pass	Pass
Yellow Zerust Valeno Film, 50/12	Pass	Pass	Pass	Pass
VpCI-126 film	Pass	Pass	Pass	Pass
Control	Fail	-	-	-

**VIA Test**

Sample	Plug #1	Plug #2	Plug #3	End Result
Yellow Zerust Valeno Film, 5/13	Grade 2	Grade 2	Grade 1	Fail
Yellow Zerust Valeno Film, 50/12	Grade 2	Grade 2	Grade 1	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

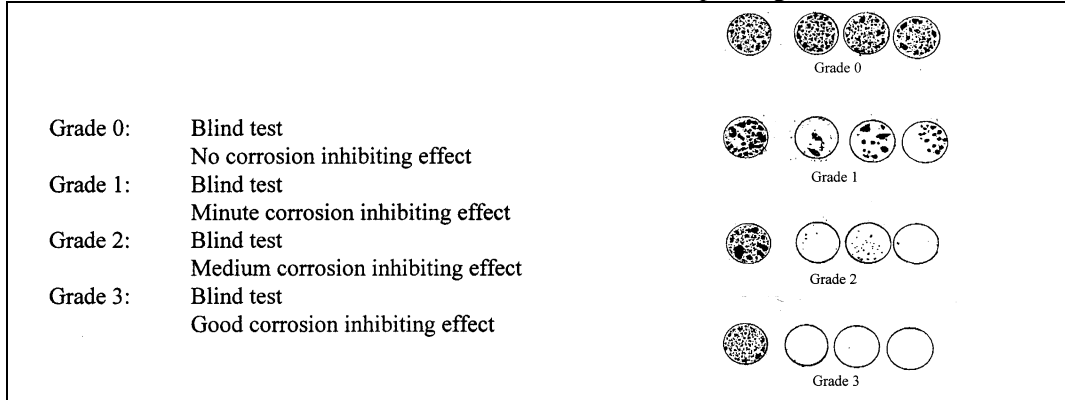
**Nitrite Test Results**

Both of the Zerust films contain nitrite

**Interpretations:**

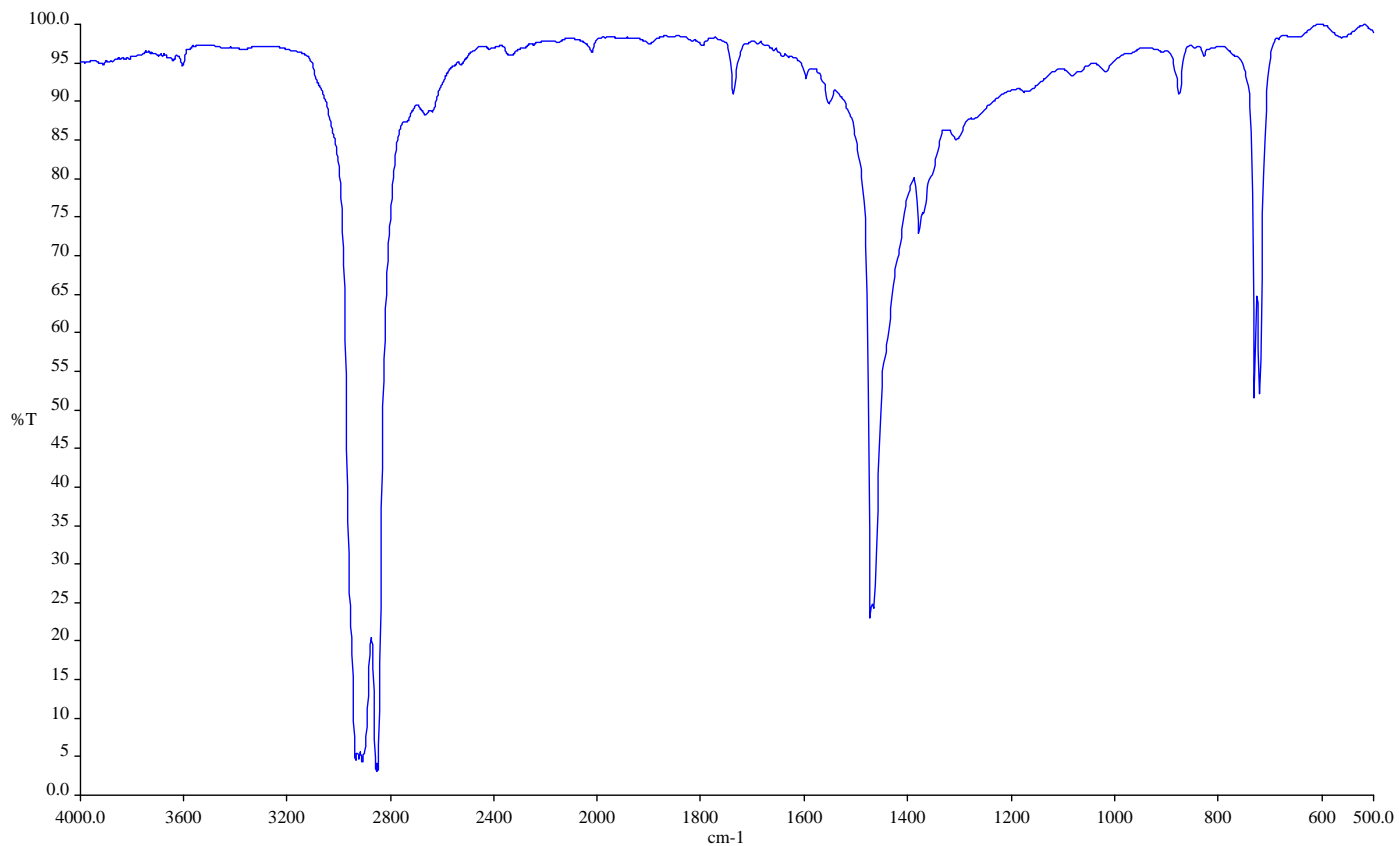
According to the test results, the two submitted yellow Zerust films failed the VIA test and razor blade test for copper, which means that these films are not for multimetal protection, but passed the razor blade test for carbon steel. VpCI-126 film passed the VIA and razor blade testing with excellent results, showing ability for multimetal protection.

VIA Test Grades (Grade 2 or 3 are passing)



**FTIR Analysis**

Yellow Zerust Valeno Film, 5/13



**FTIR Analysis**  
Yellow Zerust Valeno Film, 50/12

