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Evaluation of ITW VCI films

Background: Nucor Steel requested that the submitted films produced by ITW be evaluated to determine if they are good corrosion inhibitors.

Purpose: Evaluate anticorrosion properties of the submitted VCI ITW films.

- Materials:**
1. Submitted VCI ITW clear film, (3 mils), # VCIA7083020
 2. Submitted VCI ITW clear with string film, (3 mils), # VCIA7083020
 3. Uncoated polyethylene film, 3 mils (control film)
 4. Carbon Steel Panels
 5. Methanol-lab grade
 8. Razor Blade test kit
 9. VIA test kit
 10. FT-IR test kit
 11. Perkin Elmer FT-IR 1000 Spectrometer

- Method:**
1. FT-IR test
 2. Razor Blade test, CC-004
 3. VIA test

Procedure: The above tests were performed according to standard procedures for each.

Results:

Razor Blade Test Performed on Carbon Steel Panels

Film	Panel 1	Panel 2	Panel 3
VCI ITW clear film	Fail	Fail	Fail
VCI ITW clear string film	Fail	Fail	Fail
Control	Fail	Fail	Fail



VIA Test

Film	Plug #1	Plug #2	Plug #3
VCI ITW clear film	1	1	1
VCI ITW clear string film	0	2	1
Control	0	0	0




Note: VIA Grading system is attached below

FT-IR Test

FT-IR results are attached at the end of the report.

Conclusion: The results concluded that both the VCI ITW clear film and the VCI ITW clear string film failed to provide sufficient vapor phase or contact corrosion inhibition. Both of these films contain insufficient amounts of corrosion inhibitors, if any.

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	