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Evaluation of VCI-2000 and Daubert Film

Background: Bill Harrod submitted 2 competitors films for the test.

Purpose: To test VCI properties for both of the submitted VCI-2000 and Daubert film, and compare to VpCI-126.

Materials: Submitted sample of VCI-2000 film (3.5mils)
 Submitted sample of Daubert film (2.5mils)
 Razor Blade Test Kit
 VIA Test Kit
 SO₂ Test Kit
 Perkin Elmer FT-IR 1000 Spectrometer
 EM Quant Nitrite/Nitrate Test strips (Lot # OC555062, Exp 9/08)

Method: Razor Blade Test
 VIA Test
 SO₂ Test
 FT-IR Analysis
 Nitrite Test

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

Results: Razor Blade Test (carbon steel)

Material	Panel #1	Panel #2	Panel #3
Submitted VCI-2000 film (3.5mils)	Fail	Fail	Fail
Submitted Daubert film (2.5mils)	Pass	Pass	Pass
Typical results for VpCI-126 (2.5mils)	Pass	Pass	Pass
Control	Fail	Fail	Fail

VIA Test

Material	Plug #1	Plug #2	Plug #3
Submitted VCI-2000 film (3.5mils)	Grade 1	Grade 1	Grade 2
Submitted Daubert film (2.5mils)	Grade 2	Grade 2	Grade 3
Typical results for VpCI-126 (2.5mils)	Grade 3	Grade 3	Grade 3
Control	Fail	Fail	Fail



SO₂ Test

Material	Plug #1	Plug #2	Plug #3
Submitted VCI-2000 film (3.5mils)	Grade 2	Grade 2	Grade 1
Submitted Daubert film (2.5mils)	Grade 4	Grade 3	Grade 3
Typical results for VpCI-126 (2.5mils)	Grade 4	Grade 4	Grade 4
Control	Fail	Fail	Fail

Nitrite Test: The submitted VCI-2000 film contains no nitrite on either side

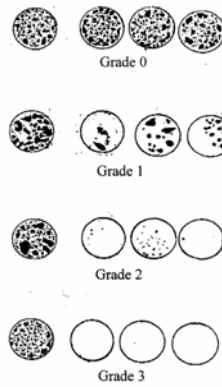
Nitrite Test: The submitted Daubert film contains nitrite on both sides

Conclusion: The submitted sample of VCI-2000 film failed to pass all three corrosion tests. However, the submitted sample of Daubert film did pass all three corrosion tests. So, in conclusion, VCI-2000 film has poor corrosion inhibiting properties while the Daubert film has good corrosion inhibiting properties.

Project #: 07-050-1125

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

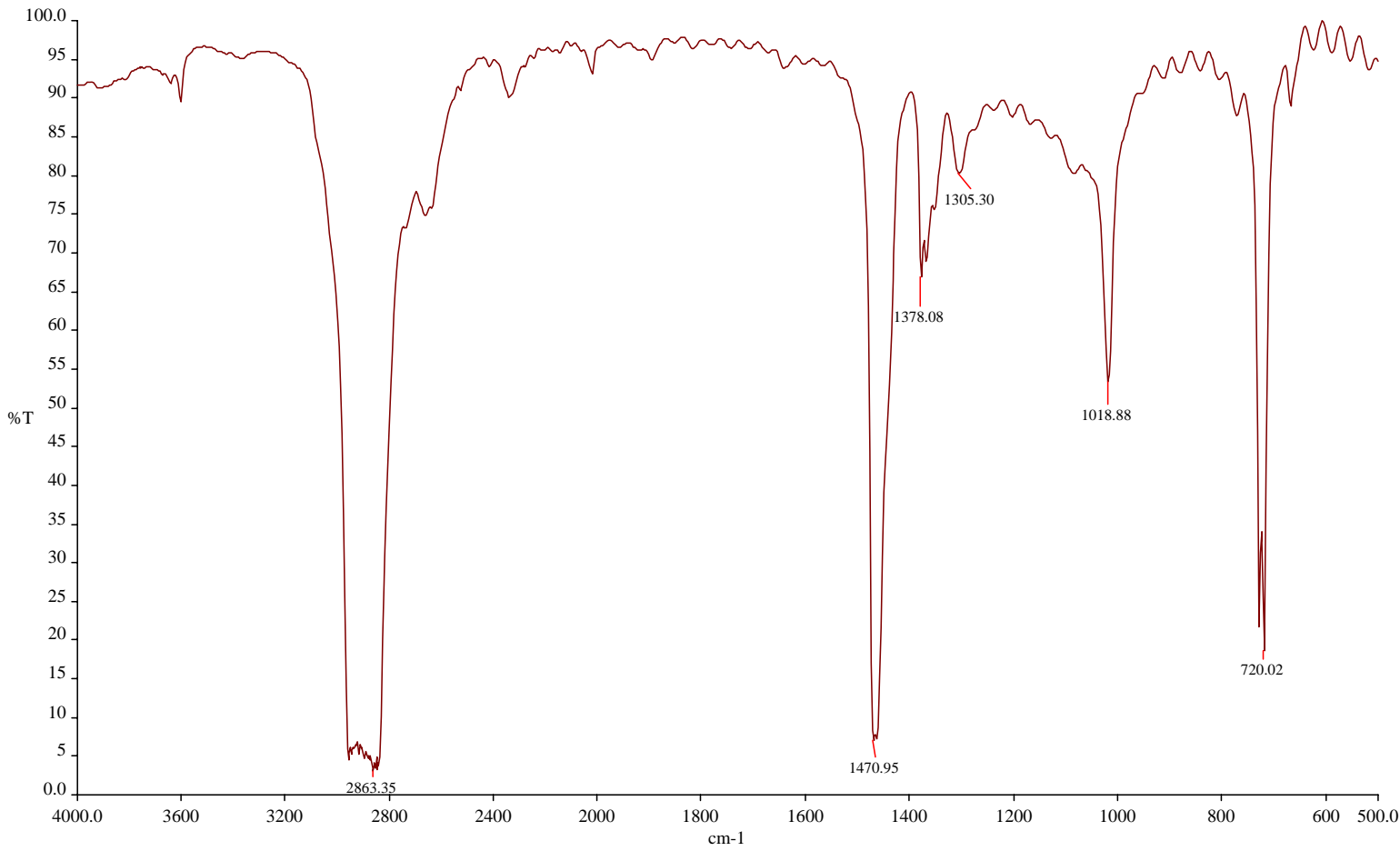


SO₂ Grades (Grade 3 and 4 are passing):

- Grade 0- Extensive corrosion covering 25% or more of panel surface
- Grade 1- Moderate corrosion covering 10-25% of panel surface
- Grade 2- Slight corrosion covering 5-10% of panel surface
- Grade 3- Very slight corrosion covering 0-5% of panel surface
- Grade 4- No visible corrosion on panel surface

FTIR Analysis

Submitted VCI-2000 film



FTIR Analysis

Submitted Daubert film

