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Evaluation of a Korea Produced Yellow Film

Background: The yellow film is from a Korean VCI film producer and the customers are having corrosion problems.

Purpose: To determine whether or not this yellow film is a true VCI film.

Materials: Razor Blade Test Kit
 VIA Test Kit
 SO₂ Test Kit
 EM Quant Nitrite/Nitrate test (Lot OC332590, Exp 7/2006)
 Perkin Elmer Paragon 1000 FT-IR Spectrometer
 Yellow VCI Korea produced film (4.5 mil)

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

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

Results:

VIA Test

Material	Plug #1	Plug #2	Plug #3
Korean produced yellow film	Grade 0	Grade 0	Grade 0
Control	Fail	Fail	Fail

Razor Blade Test (carbon steel)

Material	Panel #1	Panel #2	Panel #3
Korean produced yellow film	Fail	Fail	Fail
Control	Fail	Fail	Fail

SO₂ Test

Material	Panel #1	Panel #2	Panel #3
Korean produced yellow film	Grade 1	Grade 1	Grade 1
Control	Fail	Fail	Fail

Nitrite Test: Submitted yellow film does not contain any nitrite.

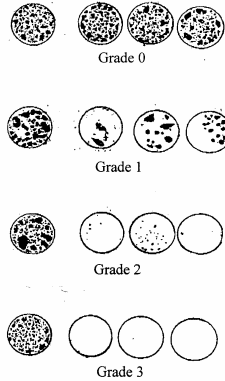


Conclusion: Based on the above results, the Korean produced yellow film fails to provide sufficient contact, barrier and vapor phase corrosion inhibition. Based on the FT-IR spectra this film doesn't contain sufficient amount, if any, of corrosion inhibitors, including VpCIs.

Project #: 05-230-1125

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

FT-IR Analysis

