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Evaluation of Blue VCI Film from Keystone

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Project #: 13-252-1125

Results reported by:

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Approved by:

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Background: Joe Louisell submitted a sample of blue VCI film sold by Keystone, the manufacturer of the film is unknown. He requested that the corrosion inhibiting ability of the film be compared to VpCI-126.

Sample Received:

- 1) VCI blue film sold by Keystone, received 11-14-13, ok condition

Method:

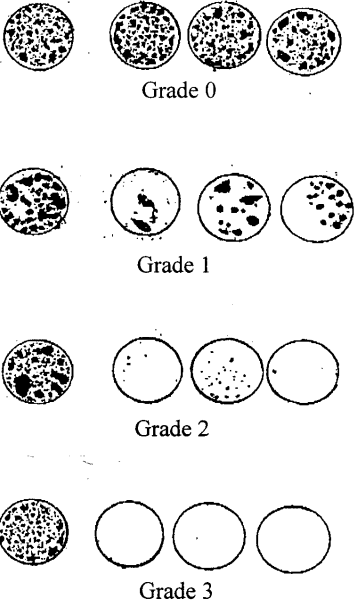
- 1) VIA Test Method, CC-027
 - 2) Razor Blade Test Method, CC-004*
 - 3) Paragon 1000 FTIR, Method CC-006
- *Cortec Laboratory is not accredited for the test marked

Materials:

- 1) VIA Test Kit
- 2) Razor Blade test kit
- 3) Methanol, lab grade
- 4) Deionized Water
- 5) Paragon 1000 FTIR
- 6) Plain polyethylene, control film
- 7) VpCI-126, Lot 33659

Procedure:

- 1) The tests were performed according to standard procedures. The test results for VpCI-126 were taken from QC's random testing results for lot 33659.
- 2) The VIA test was graded according to the following system:

VIA Test Plug Grading Scheme	
<p>Picture A.2</p> <p>Grade 0: Blind test No corrosion inhibiting effect</p> <p>Grade 1: Blind test Minute corrosion inhibiting effect</p> <p>Grade 2: Blind test Medium corrosion inhibiting effect</p> <p>Grade 3: Blind test Good corrosion inhibiting effect</p>	 <p>Grade 0</p> <p>Grade 1</p> <p>Grade 2</p> <p>Grade 3</p>

Results:

Razor Blade Test – Carbon Steel

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

Razor Blade Test – Copper

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

VIA Test

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

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 blue VCI film sold by Keystone does not provide contact or vapor-phase corrosion inhibition. FTIR results determined there was possibly sodium benzoate (peak 1551) and a desiccant (peak ~1110)
- 2) The results for the VpCI-126 film determined it provides good vapor and contact-phase corrosion inhibition.

